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SPECIAL ARTICLE.

THE UNIVERSITY AND BELLEVUE MEDICAL COLLEGE.

THE University and Bellevue Hospital Medical College in New York City is to-day an important force in medical education. It is like a river that has suddenly grown wide and deep enough to bear an ocean fleet, whereas before there were two streams subject to the conditions of drought and flood. In other words it is but three years since the University Medical College was joined by that powerful tributary, the Bellevue Hospital Medical College. To trace the course of these confluent streams that now flow in such a wide educational channel, we must start from two distantly separate sources, and follow their development of medical progress along different lines, up to the recent time of their converging and union.

The University Medical College is the main stream, although perhaps not the more celebrated of the two, for it had its rise nearly a quarter of a century before Bellevue College, in the days when the College of Physicians and Surgeons represented the sole medical center of New York City.

In 1838 a number of eminent practitioners who had at one time or another been prominent in medical institutions decided that in the growing city there was not only room, but need for another medical school, and accordingly broached to the New York University, then called the University of the City of New York, the idea that a medical school be founded in connection with that institution. The idea was accepted with an organized faculty of men whose names have since become famous; but before it became a reality circumstances arose which caused the prospective medical faculty to sever their connections with the New York University, and to offer their embryonic medical school to Columbia College. This step caused some alarm to the College of Physicians and Surgeons, whose influence against the new school led the Trustees of Columbia College to politely decline the budding faculty's offer on the ground that they feared a medical school would be detrimental to the Academic Department. After their rejection by Columbia College it was determined to apply to the Legislature for an act of incorporation.

The County Medical Society and the Trustees of the College of Physicians and Surgeons indorsed the application to the Legislature and all active opposition was removed. While action was thus pending negotiations were again opened with the University which were successful and the following were accepted as the Faculty of the Medical Department:

Professor Valentine Mott, Surgery; Professor Granville S. Pattison, Anatomy; Professor Gunning S. Bedford, Obstetrics and Diseases of Women; Professor John Revere, of Jefferson Medical College, Theory and Practice of Medicine; Professor Paine, Institutes of Medicine and Materia Medica, and Professor John W. Draper, Chemistry.

These six professors purchased the large granite building, known as Stuyvesant Institute, for the College. This building, with the exception of the University and the Astor House, was considered the finest building in the city and was situated on the western side of Broadway opposite Bond Street.

The founding and equipment of the Medical School proved so heavy a burden on the Faculty that they decided to apply to the Legislature for

GRANVILLE SHARP PATTISON, M.D.

pecuniary aid, accordingly Professor Paine appeared before the Legislature during the winter of 1844 with a petition which in spite of opposition obtained a grant of $3,000 a year for five years or longer. By an alteration, however, of the Constitution of the State, affecting all legislative grants, the College enjoyed this gratuity for three years only.

The College continued to be conducted in the Stuyvesant Institute until the year 1851 when the property was sold and a new and specially designed college building was erected on East Fourteenth Street between the Academy of Music and Third Avenue. At the time of its completion it was the best equipped and most commodious medical college building in the country.

The College remained at this location with gradually increasing classes until it was destroyed at the time of the burning of the Academy of

Music in the spring of 1866. The loss was not limited to the building, but many of the records of the institution were destroyed, together with collections in anatomy, chemistry, materia medica, botany, etc. Not only did the University Medical School suffer from the fire, but during the Civil War its fortunes ebbed so low, that its very existence was threatened. From its founda-

GUNNING S. BEDFORD, M.D.

tion it had attracted many students from the South, for a large number of its professors were Southern men, accordingly when the war broke out, and the men from the Southern States ceased to attend, and the Northern students enlisted, the classes were practically deserted. However, it soon regained its prestige and in 1879 one of the largest medical classes ever graduated in America

A. L. LOOMIS, M.D., LL.D.

(204) received diplomas from the Chancellor of the New York University.

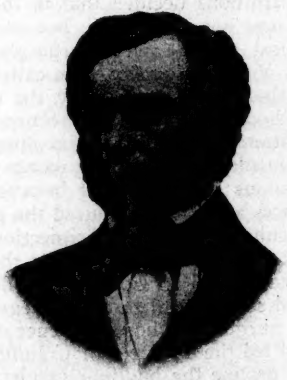
After the fire the Faculty took up their quarters in the old New York Hospital which at that time occupied the square bounded by Broadway, Church, Duane and Worth Streets, but were compelled to give it up three years later on account of the sale of the property.

At the earnest solicitation of Professor Henry Draper, the late Cortlandt Palmer was induced to erect a building for the College at 426 East 26th Street, which he leased to the Faculty for a term of years, but this did not accommodate the rapidly increasing classes and as it was deemed impracticable to enlarge it, a new site was bought at 410 East 26th Street, and a building completed in 1874, which like its predecessor on East 14th

WILLIAM DARLING, M.D.

Street, was at the time of its occupation a model building for the uses of the school as medical education was then conducted.

In 1882 the property adjoining the College was purchased and a large dispensary building, with laboratories and class-room, was added to the equipment of the school, and in 1886 the Medical Faculty received a donation of $100,000 for the



JOHN WILLIAM DRAPER, M.D.

erection and equipment of a new laboratory building which, by the request of the donor, was to be known as the Loomis Laboratory.

To Alfred L. Loomis who occupied the Chair of Theory and Practice of Medicine from 1867 until his death in 1895, the College, alumni and medical profession owe a debt of gratitude and the present generation of medical men will always associate the University Medical College with his

name. As a didactic and clinical teacher he was unexcelled, as he had the rare gift of so impressing the student that after leaving the class-room he seldom forgot the points that had been emphasized during the lecture or clinic. He always had a keen interest in the welfare both of students and graduates and the interests of the College were always especially dear to him. It was largely due to his untiring energy in its behalf that the success of the College was so phenomenal.

The students who sat under the teaching of Professor William Darling will always have a vivid recollection of the picture he presented while conducting his lectures and at the same time occupying his hands, when not otherwise employed, with some useful work. As a pure anatomist he probably had no equal in the country. He devoted the greater part of his life to its teaching. His eccentricities were numerous and, although in comfortable circumstances, he practised the most rigid economy, having his rooms in the college building and lived surrounded by anatomical material and anomalies.

JOHN REVERE, M.D.

MARTYN PAINE, M.D.

The name of Draper, which has always been associated with the University as well as with the advance of medical science, was represented by three members of that distinguished family, Dr. John W. Draper, who occupied the chairs of physiology and chemistry, Dr. H. W. Draper who succeeded him in the former 1867, and Dr. J. C. Draper who took the chair of chemistry in 1865.

Among others the famous men that have been connected with the school were: Professor Samuel D. Gross, who occupied the chair of surgery for one session afterward going to the Jefferson Medical College, Professor John T. Darby who came from the University of South Carolina and remained with the College until his death, Professor Dickson who also came from the University of South Carolina and later was professor in Jefferson Medical College, and Professor William H. Van Buren who for a while was professor of anatomy and afterward became professor of surgery in Bellevue Hospital Medical College.

Not only have famous men begun their careers at the University Medical School, but another of New York's well-known schools of medicine owes its origin to the post-graduate course founded by the University in 1875. This was a course given by a "Supplementary Faculty" of professors for the purpose of facilitating the efforts of graduates in medicine who had come to New York to renew professional studies, and who after satisfactorily completing it received certificates. It lasted for seven years only and was then abolished.

The professors who had been interested in it, and who were separate from the Governing Faculty asked to be allowed to grant degrees instead of certificates and they also desired to have a separate system of fees, separate lecture-halls, etc., and to be allowed to share in the general government of the college; but after due consideration by the Governing Faculty it was decided that this proposal would not accord with the policy of the College and it was therefore deemed for the best interests of the institution to accept the resignations which were tendered by the majority of the post-graduate professors who seceded in 1882. The professors who withdrew from the College at this time were the founders of the present Post-Graduate Medical School.

An incident of great interest in the history of the Medical Department of the University is the part of the Faculty in obtaining from the Legislature an act legalizing the study of anatomy, as it was then a State prison offence to dissect any part of the human body for anatomical purposes. Professor Martyn Paine by his persistent and self-sacrificing labor at Albany succeeded in 1854 in having the objectionable law repealed and dissection legalized.

Previous to 1890 a large percentage of the matriculants at the University Medical College and at its sister institution Bellevue Hospital Medical College were from other States in the Union. With the passage of the Medical Law demanding that all those who received the degree from colleges within the State of New York

should obtain a medical students' certificate, issued by the Regents of the State of New York, a marked falling off in attendance was noted. This, together with the continued growing expense of conducting a medical college on account of the extensive Laboratory courses, etc., brought vividly to the attention of the Faculty the need of a closer association with the University proper, as up to this time the running expenses of the College and salaries of the Professors and Instructors were dependent upon the fees of the students; accordingly in the spring of 1897 the Trustees of the College property, most of them members of the Faculty, transferred it unconditionally to the University Corporation. But the most important step was that which was finally taken in 1898 when at the commencement exercises the official announcement was made of the consummation of the consolidation between the University Medical College and the Bellevue Hospital Medical College.

Thus, with the medical school that was cradled in a University was joined that school of medicine that has been the outgrowth of the most practical work of New York City. It was no sentiment of independence or jealousy that gave birth to the Bellevue School of Medicine, but rather the absolute prodigality of clinical material that was going to waste in Bellevue Hospital and that attracted so many students that, finally, in spite of themselves they formed a school.

W. H. VAN BUREN, M.D.

JAMES R. WOOD, M.D.

The earliest reference to public instruction in this hospital that has been found is a short note in the "Medical Repository" for 1804 to the effect that Dr. Valentine Seamen had begun a course of lectures on the obstetric art intended particularly for the education of midwives. But the instruction given in other branches for many years was wholly informal. The physicians who gave their services for charity to the City's sick, walked the wards attended by their private students.

As soon as Bellevue Hospital was placed under the control of a medical board with division into a medical and surgical service, the board, as one of its first acts, made provision for an amphitheater which was formally opened March 2, 1849, by Dr. William H. Van Buren, who performed the operation of lithotomy. Notice was then given that students would be admitted without charge to the clinical lectures on every Friday at one o'clock. These clinics were continued for a little over a year, but during the ensuing five or six years clinics were held occasionally, but with no regularity. This, then, is the beginning of that clinical teaching with which the name of "Bellevue" has since become synonymous.

The desire that had ever actuated the Medical Board from its organization to apply the great clinical advantages in the hospital to the purpose of instruction received a new stimulus in 1857. This was the completion of a building to be used for pathological studies. It was due largely to the energy and zeal of Dr. James R. Wood and it contained a spacious lecture room and museum which is the "Wood Pathological Museum" of Bellevue Hospital.

While this building was in course of erection a committee arranged a plan for clinical instruction, which was announced by Dr. Wood on the opening of the lecture room, October 19, 1857. This marked the beginning of opportunities for and work in autopsy and gross pathology and early left its impress upon the medical profession of the city. On December 18, 1860, at the request of the Board of Commissioners of Public Charities and Corrections, the Medical Board appointed a committee to examine and report upon the various institutions upon Blackwell's Island under the control of the Commissioners with a view to the medical departments of these institutions coming under the care of the Bellevue Board. In their report to the Medical Board this Committee recommended the establishment of a medical college in connection with Bellevue Hospital. The Medical Board approved of the suggestion and a committee was elected to confer with the Commissioners.

The Commissioners approved of the plan and

recognized that not only would the cause of medical education be aided, but the welfare of the sick poor would be greatly benefited by the founding of a medical school in connection with the Hospital.

These schemes rapidly took shape and in

FORDYCE BARKER, M.D.

March, 1861, eleven out of the active members of the Medical Board signified their willingness to connect themselves with the proposed college These were Drs. Taylor, Wood, Hamilton, Sayre, Mott, Stephen Smith, Barker, Elliot, McCready, Gouley, and Loomis. The Board of Commissioners were enthusiastic in their endeavors to increase the value of the charitable institutions under their care by making them subserve more completely the cause of medical education and notified the Medical Board that they would allow a college building to be erected upon the hospital grounds. Steps in this direction were accordingly taken. During April, 1861, the following members of the Medical Board were elected to the Faculty of Bellevue Hospital Medical College, which was the title of the new school and chairs were assigned as follows: Principles and Practice of Surgery, Dr. Stephen Smith; Surgery of Bones and Accidents, Dr. Frank H. Hamilton; Operative Surgery and Surgical Pathology, Dr. James R. Wood; Surgical Anatomy, Dr. Alexander B. Mott; Orthopedic Surgery, Dr. Lewis A. Sayre; Obstetrics, Drs. Isaac E. Taylor, Fordyce Barker and George T. Elliot, Jr.; Materia Medica and Therapeutics, Dr. Benj. W. McCready; Principles and Practice of Medicine, Dr. Austin Flint; Anatomy, Dr. John W. S. Gouley; Physiology, Dr. Austin Flint, Jr.; Chemistry and Toxicology, Dr. R. Ogden Doremus.

The first exercises of the College, as such, were short courses given during April and May, 1861, by Professors Wood and Hamilton on points connected with military surgery, a subject which the breaking out of the war rendered particularly important. These lectures were attended by two hundred practitioners and students.

In the meantime the College had been incorporated and placed under the control of a Board of Trustees of which the Commissioners of Public Charities and Corrections were members. During the following summer the first building of the College was erected.

In June, 1861, Dr. Gouley considered that his duty demanded that he remain in the army during the continuance of the war, and he therefore resigned the chair of anatomy and Dr. Timothy Childs was called to fill the vacancy.

Probably the prospectus of the new school because of the war caused a falling off of students in the University School. The first session of the College was opened the following fall and from the beginning the capacity was taxed to the utmost, so that before the first session was finished the necessity for a larger building was felt, and it was proposed to procure ground opposite the entrance to the Hospital and build a new College outside the Hospital grounds. The Commissioners of Public Charities and Corrections, however, were unwilling that the College should go outside the Hospital grounds and proposed to erect a new building and lease it to the College. This proposal was accepted and in May, 1863, the Faculty of the College presented to the Commissioners a complete plan of organization for the Bureau of Medical and Surgical Relief for the Out-Door Poor. During the autumn of 1865 the Commissioners erected a large building within the Hospital grounds so arranged as to serve the

AUSTIN FLINT, M.D.

purpose of College and Out-Door Poor. The lower floor was divided to answer the purpose of Dispensary and the upper part was leased to the Faculty for the use of the Medical College. This arrangement allowed of the use of clinical material not only from the wards of the Hospital,

but also from the Dispensary and enabled the Faculty of the College to develop the clinical teaching on the broad lines that was always one of its peculiar characteristics.

No change occurred in the personnel of the Faculty until the death of Professor Childs in September, 1865, at which time Professor Stephen Smith was appointed to the chair of anatomy, and the principles of practice of surgery which had formerly been under Professor Smith's charge were assigned to Professor Hamilton in addition to his other duties.

In 1866 the Faculty recognized the necessity of furnishing the students with instruction upon the special branches in greater detail than could be well considered in the course given by the professors of the seven chairs already demanded by the Charter of the School, and therefore in the spring of this year Dr. Henry D. Noyes, formerly demonstrator of anatomy, who had been holding clinics at the New York Eye and Ear Infirmary was made professor of ophthalmology and in the summer course, which was this year established,

I. E. TAYLOR, M.D.

VALENTINE MOTT, M.D.

Dr. F. J. Bumsted was appointed professor of syphilology, Dr. Foster Smith, lecturer on diseases of the skin, and Dr. J. Lewis Smith, lecturer on morbid anatomy. Dr. William H. Van Buren was made professor of diseases of the genito-urinary system. In 1867 a chair of diseases of the mind and nervous system was established and Dr. William A. Hammond was elected. In 1871 dermatology under the charge of Professor E. L. Keyes and pathological anatomy under Professor Edward G. Janeway were introduced into the curriculum of the regular session. During this same year a medical clinic was established under the direction of Professor William T. Lusk, who had been elected a member of the Faculty to fill the vacancy caused by the death of Professor Elliot.

The members of the corps of professors who organized the College were far from being inexperienced. Many of them had already held chairs of their respective branches in other institutions, and others had been clinical lecturers in the adjoining Hospital and elsewhere. They were men thoroughly able and accustomed to teach the subjects assigned them. They were men in the prime of life; Taylor was 49, Flint 48, Wood and Hamilton 47, Barker 43 and Van Buren and Sayre 41. As they grew the school grew in reputation with them and by the character of their work in the wards and their zeal in teaching, they were indeed most influential in spreading the fame of Bellevue Hospital as a great center for clinical instruction, so that their names became a guarantee throughout the land of the value of the instruction given at Bellevue Hospital. A word of reminiscence concerning these men cannot fail to recall the personalities that made the school famous.

Dr. James R. Wood was a comparatively small man physically, mentally, however, of more than usual proportion. A man of earnest action and loyal attachments, not only to his friends, but to every duty belonging to his station and line of action that commanded his attention. He was scrupulously neat in his attire on all occasions and when visiting the hospital wards wore a boutonnière. His interest in Bellevue Hospital and also in the school bearing a somewhat similar name was indefatigable and decided in its outcome. Rapidity of action characterized his operative procedures and clearness of judgment and wisdom his consultations.

Dr. Isaac E. Taylor was a man of generous impulses and of almost feminine instincts. He was ever ready to listen to the requirements of need and prompt to extend abundant assistance. He was keenly interested in the professional honor of those engaged in medical calling, and severe and rapid in his condemnation of those who by word or action brought censure or reproach upon the profession of medicine.

Dr. Hamilton was courteous in every association to his fellow-men, professionally and otherwise. As a medical teacher, he had few equals and the uniform consideration shown by him to every member of the class promptly established a mutually strong, respectful attachment between

them. His concise and scholarly expressions, illustrative of the subjects under consideration, characterized him as a teacher and a debator upon surgical topics.

Dr. Mott was an operating surgeon of high order whose rapidity of action and success in this line bespoke the instruction of his famous father. His lessons in surgical anatomy were practical and contributed largely, indeed, to make the operative labors of those who were privileged to listen to his instruction lighter and fruitful of good results.

Dr. McCready's instructions in materia medica and therapeutics were emphasized not infrequently by illustrations so characteristic of the genial and humorous nature of the lecturer as to make it impossible for one to forget the points he wished to impress. He was a gentleman of more than usual professional and literary attainment and one always welcome in circles characterized by genial relations and scientific attainments.

Dr. Elliot was polished in his manners, appearance and education to the fullest extent. He was courteous to all who indicated by their attention their interest in his efforts to instruct them and prompt to rebuke unwarranted liberties and inattentions that not unfrequently characterize the lecture-room and hospital wards. He seemed desirous that all those with whom he came in contact should have in view the same high standard of thought and action that characterized his intercourse with the unfortunate and suffering in the professional walks of life. His death was an irreparable loss to the school with which he was connected and to the medical profession of which he was a highly respected and useful member.

It is owing to the excellent executive ability of Dr. Lewis Albert Sayre that the school made such strides in these early days. Dr. Sayre graduated from the College of Physicians and Surgeons, New York, and was appointed a prosecutor to the professor of surgery at this institution. In 1853 he was made surgeon to Bellevue Hospital. He soon became professor of orthopedic surgery and fractures and luxations in the new school.

It was due to Dr. Sayre in large part that New York has developed such an excellent sanitary system, for he served as resident physician of the City of New York. His quarantine provisions were well in the foreguard of modern scientific progress and served as efficient barriers to the entrance of several severe epidemics to New York City.

When in 1882 the death of Professor James R. Wood occurred followed soon after (1883) by the death of Professor Van Buren, it was not the College alone, but the Hospital and the medical profession at large that suffered also. Flint and Hamilton were the next to follow in 1886. Seldom is it that any college is called upon to sustain such grievous losses in its teaching body and many are the men throughout this country who revere the memories of these masters of medicine and count themselves fortunate that they have these names added to their diplomas.

The year 1889 marked the death of President Taylor and of Professor Mott. Professor Taylor had been President since the foundation of the college, but had not been actively teaching, having been emeritus professor of obstetrics and diseases of women and children since 1867.

Dr. E. G. Janeway was promoted to the full professorship in medicine on the death of Professor Flint. Professor Janeway had joined the school in 1872, coming from the Medical Department of the New York University where he had been professor of physiological and pathological anatomy. Professor Janeway resigned the chair of medicine in 1892 and was succeeded by Professor A. Alexander Smith, '71, who had for thirteen years been professor of the subjects of materia medica and therapeutics.

The chair of anatomy made vacant by the decease of Professor Alpheus B. Crosby had been held by Professor Joseph D. Bryant, '68, since 1878 when in 1883, after the death of Professor Van Buren, he was appointed clinical professor of surgery and associate professor of orthopedic surgery, while still retaining the chair of anatomy. Dr. F. S. Dennis was made professor of the principles and practice of surgery.

Another great loss to the College during this period was that in 1884 when Dr. William H. Welch, Professor of Pathological Anatomy, resigned to take the professorship of pathological anatomy in Johns Hopkins University.

In 1884 the College received a donation of fifty-thousand dollars from a member of the Board of Trustees, this sum to be devoted to the erection of a suitable building for laboratories and the purchase of apparatus. Members of the Board of Trustees and other friends of the College provided a lot of land on East 26th Street, fifty by one hundred feet, a short distance from the hospital and the new building was erected here. This building was opened for work in 1885 and was devoted mainly to laboratory work in physiology, pathology, therapeutics and other departments of medicine. It was with the view of fostering original research in the newer science of bacteriology and of disseminating a practical knowledge of what had already been developed that Mr. Carnegie made his generous gift to the College. This College was, therefore, one of the earliest beneficiaries of Mr. Carnegie's gifts.

It is this fine equipment together with the record of the life work of brilliant men that the Bellevue Medical School has brought to the University Medical School in the act of consolidation.

The teaching forces of the two colleges, which now numbers 120; the completion of the new college building on 26th Street; the thorough equipment of the laboratories, the opening of the new clinic, where over 40,000 patients are treated annually, together with the clinical material available in the Hospitals under the Department of Charities and also the private hospitals of the City, offers to the medical student and graduate facilities for a thorough medical education and practical training.

ORIGINAL ARTICLES.

ACUTE RHEUMATISM.

BY WM. WATT KERR, M.D.,
OF SAN FRANCISCO;
PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF CALIFORNIA.

IN INTRODUCING the subject of acute rheumatism, I shall first present as illustrations of the disease two patients from the wards. The important points in the histories are included in the following abstracts.

Case I.—Male, age thirty-three years, rigger by occupation, and served in the army for two years during the recent war. The family history is good, there being no rheumatism in the family so far as he is aware. Had measles, mumps and diphtheria when a child; there is no specific history nor former attacks of rheumatism, but he drinks to excess occasionally. More than a year ago he dropped from a height of fifteen feet and landed in an upright position upon a stone floor; no bones were broken, but he was unable to walk for nearly four months on account of pain in the ankles.

His present illness began a few days before admission to hospital with dull pain in the left knee, which in forty-eight hours became very intense and was accompanied by swelling and redness; the pain extended to the left ankle, then to the right ankle, and there was marked pain and tenderness along the left sciatic nerve, but no loss of power. At the same time he had a smothering sensation in the left chest, and on examination a well-marked systolic mitral murmur was discovered; in addition to this there was pain as well as other signs of pleurisy on the same side. The degree of fever was moderate.

The patient was given twenty grains of salicylate of soda every two hours, and a small blister was applied over the precordia, with the result that, within twenty-four hours, the pain had almost disappeared from the joints, the cardiac murmur was much less distinct, and at the end of four days the patient was free from pain, while, so far as physical signs were concerned, the heart had become perfectly normal. Five weeks later he was transferred to the surgical wards on account of a slight rectal trouble from which he had suffered for some years, and on his return to this ward I found him showing signs of peripheral neuritis in both lower limbs, and from dropsy in the lower limbs. Examination showed the area of cardiac dulness increased, together with a weakened pulse, which suggested the existence of myocardial changes.

Case II.—Male, aged thirty-one years, milker. The only important points in his personal and family history are that his father suffers from rheumatism and that he himself has had three previous attacks. Prior to his present sickness, he suffered from slight pains in his feet, but the acute attack began with pain, swelling and tenderness in the left knee, which two days later shifted to the left hip, then to the right knee, and afterward to the right foot; then the left shoulder and left wrist became involved in the order mentioned. On admission, a faint pericardial friction could be heard, which for a time became more pronounced, and did not finally disappear until nearly four weeks after admission. He suffered from profuse perspiration and fever, with an evening exacerbation, which on one occasion rose to 103.2° F.

The treatment was similar to that adopted in the former case and yielded as speedy results, but there have been three relapses due to the fact that it was absolutely impossible to keep the patient at rest after the pain had disappeared from his limbs. One of these relapses was associated with endocarditis.

A comparison of the two cases shows points of similarity and difference. Both patients had fever, sweats, and endocarditis; in one, the joint symptoms were well marked; in the other, they were of medium severity, but this patient suffered from sciatica.

Such are the symptoms of two average types of rheumatism. How far can they be explained by the pathology of the disease? Unfortunately, our knowledge of this subject is still very deficient, but for the last fifteen years the belief has been increasing that rheumatism is an infectious disease due to the introduction of a microbe; indeed, the nervous, the humeral, and neuro-humeral theories have all proven so unsatisfactory that they may be omitted from the present discussion.

It has been suggested that the disease is simply an attenuated pyemic infection, but, while the symptoms resemble those of pyemia, close observation shows sufficient difference to warrant the hypothesis of distinct poisons. The tendency of pyemic infections toward suppuration affords a marked contrast to the extreme rarity of suppurative changes in tissues which have been affected by rheumatism. Another theory, based chiefly upon studies of malignant endocarditis, ascribes rheumatism to a mixed infection, but no satisfactory bacteriological support has been found for this hypothesis. The subject is still further complicated by the fact that at least three micro-organisms have been discovered, each of which has some claim to be regarded as a factor in the production of the disease.

Recently Poynton and Paine have pubished the results of some observations and experiments regarding a diplococcus, which is probably identical with that described by Triboulet in 1897. In twelve consecutive cases of rheumatic fever, these gentlemen have isolated a diplococcus which, when injected into the veins of rabbits, has produced polyarthritis, pericarditis, valvulitis, pleurisy, pneumonia, chorea and nodules; all the lesions were non-suppurative in character. This micro-organism has been obtained from the blood, urine, and tonsils of the patient suffering from rheumatic fever; while after death it has also been discovered in the peri-

cardium, cardiac valves, pleural and pericardial exudations, and rheumatic nodules. A study of its life history in the human and animal tissues leads to the belief that it is destroyed at the sites of the local lesions, although there frequently remains some damage to the tissues in which the diplococci were localized. These investigators very justly claim that they have discovered a cause of rheumatic fever, but that they are not yet in the position to demonstrate that their diplococcus is the only cause.

Rheumatism is a general disease in which there is a tendency toward inflammation of the serous and synovial membranes, and consequently the symptoms must be sought not only in the joints, but in every part of the body where serous or synovial membranes exist. Apart from the bacteriological testimony, there is an abundance of clinical evidence to warrant the conclusion that the disease is general and not local, and a recognition of this is necessary to enable a discrimination between this malady and the numerous painful affections of the muscles and joints which for so many years have been described as "rheumatic."

The rheumatic attack may occur suddenly, but more frequently there is malaise for two or three days as in both of these cases, and then the pyrexia and other symptoms of the disease appear. From charts of each case, it is evident that there is not anything typical in the fever of rheumatism; generally it is, as in Case II., of moderate severity, about 102° or 103° F., with the maximum temperature in the evening, but it may be absent as in Case I., where the temperature never rose above 99.2° F., until after the patient had been in the hospital for five days, when it reached 101.8° F., but returned to normal within four days. The statement that the fever varies with the number of joints affected is incorrect and misleading. It is by no means uncommon, especially in children, to meet with very slight and transient joint symptoms, but with high fever and frequently inflammation of some other membrane, such as the endocardium or pleura, and I have seen two cases of fatal hyperpyrexia in which the pain in the articulations had almost disappeared, in the one case for more than forty-eight hours, and in the other for nearly thirty-six hours, before the pyrexia began to increase. It is quite true that in the majority of cases in which many joints are involved the fever is also well marked, but this does not demonstrate any causal relation between the inflamed joints and the degree of fever; it is simply a coincidence due to the fact that the pyrexia and inflammation of the synovial membranes are due to a common cause.

In all infective diseases the more intense the infection the more marked do we expect to find all the symptoms, unless the toxin be sufficiently powerful to kill rapidly by an overwhelming influence on the nerve-centers; consequently, when we have a severe infection with rheumatic poison we expect high fever with well-marked inflammation of the serous and synovial membranes, and therefore conspicuous involvement of joints; but should the infection be mild, or become so, we would expect a corresponding diminution in the intensity of the symptoms. The excuse for speaking so forcibly upon this topic is the knowledge that some of you have not been engaged in the study of medicine long enough to divest yourselves of the popular belief that rheumatism is only an inflammation of the joints with visceral complications, and that some of the statements in text-books are capable of misinterpretation and consequent production of confused ideas, while a realization that all tissue changes are simply local manifestations is absolutely necessary to a proper conception of the disease.

Hyperpyrexia occurs more frequently in rheumatism than in any other disease, and it is one of the accidents that the attendant must be instructed to watch for even in the mildest cases; no disease so emphatically demands the regular use of the clinical thermometer. We have no positive indications of the approach of this misfortune, as it may take place where the local symptoms never have been severe, or the disturbance of the central nervous system associated with the rapidly rising temperature may blunt the sensorium so that the patient is less sensitive to pain. On the other hand, when the fever persistently remains in the vicinity of 103° F., and is not associated with any marked disturbance of serous or synovial membranes, or indications of pneumonia, we may feel particularly anxious and be ready to adopt active measures for its treatment.

Sweating is a symptom which was only well marked in one of the patients, but it is present in all cases of rheumatism to a greater or less degree; in some amounting to merely a moist condition of the skin, while in others the bedclothes become so saturated as to necessitate their frequent renewal. In many of the febrile diseases, sweating is associated with the advent of defervescence or the elimination of noxious substances from the system, but this is not the case in rheumatism: the excessive activity of the sweat-glands appears to be part of the disease itself and it is not due to any effort of Nature to counteract the morbid process. The peculiar sour smell of rheumatic perspiration is very characteristic and led to the idea that lactic acid, or some other acid, was being eliminated; but test papers applied to the surface of the body show that the reaction is by no means constant, being acid at one time and at others neutral or even alkaline; furthermore, the reaction may vary on different parts of the body. These facts would suggest that the sour odor and varying reaction are due to secondary changes taking place in the sweat constituents after secretion. This sweating is frequently accompanied by the formation of sudamina and miliaria.

In a large number of text-books the joint affections alone are regarded as local symptoms of rheumatism, while the cardiac, lung and pleur-

itic changes are described as complications. It is a very unfortunate arrangement and tends to obscure the real character of the disease, because, as we have seen from our preliminary review of the pathology, the inflammation of the endocardium, pleura and other serous membranes, is just as much a part of rheumatism as is the inflammation of the synovial membrane covering the joints. This is not a quibble in nomenclature, but the recognition of a fact that is of importance in treatment and prevents the tendency to gauge the progress of a case by the condition of the joints, which, although more conspicuous, are of secondary importance when compared with danger to life or possibility of permanent ill health that may follow even a slight lesion of the thoracic viscera.

The three characteristic features of arthritis as it is seen in cases of acute rheumatism are well illustrated in Case II. The larger joints are chiefly affected. The disease is polyarticular. The arthritis is metastatic.

The appearance of the affected joints varies. Sometimes there is not any visible alteration, but simply pain which is increased upon the slightest attempt at movement, while in other cases there is marked swelling, tension, and redness. The large joints are much more liable to be attacked than those of smaller size, and more than one is involved at the same time, except when the type has become subacute, and then it may happen that only one articulation is affected. Another peculiarity is the metastatic character of the pain, the inflammation suddenly disappearing from one joint to appear in another, very often in the corresponding part of the opposite limb, and then it may reappear in the original site. This clinical feature is possibly the strongest evidence of the general nature of the disease and finds its explanation in the statement already made that the micro-organism is destroyed at the site of the local lesion.

The coexistence of acute rheumatism and sciatica is not often so well marked as we found it in Case I. Probably this nerve trouble was simply a perineuritis, although rheumatism is capable of producing a true neuritis.

The physical signs indicating involvement of the thoracic viscera do not need any special description beyond calling attention to the fact that they may be as evanescent as those met with in the joints. Thus, in Case I., the cardiac murmurs lasted for a few hours only, and in Case II., the pleuritic attack was equally short. But although signs of endocarditis are often of brief duration it not infrequently happens that during convalescence, or even subsequent to that time, the signs of permanent valvular lesion may appear, and this happens because the rheumatic poison originates changes in the valve which lead to sclerosis and shortening of the segments. As the aortic valve segments are devoid of blood-vessels, it has been suggested that the micro-organism enters this portion of the endocardium through the epithelial cells lining the membrane. It has been demonstrated that the endothelial cells lining the vascular system have phagocytic properties, and hence it is not at all improbable that micro-organisms enter the tissues in this manner, and that in the exercise of their phagocytic functions the cells themselves are injured.

The injury to the myocardium is not easily estimated during the rheumatic attack, as there are so many conditions at this time, apart from myocarditis, to influence the pulse. Case I. has been convalescing for nearly eight weeks, but has been detained in hospital on account of some slight rectal trouble requiring surgical treatment; during the last fortnight he has developed edema of the feet and lower limbs, with diminished pulse force, although no signs of valvular lesion can be detected and the urine is normal. Evidently the myocardium had become weakened so that when the patient resumed active habits it yielded under the strain.

Remember also that the heart may become involved, especially in children, so insidiously as not to give rise to any special symptoms sufficient to attract the attention of the physician, and hence a constant watch must be kept for the appearance of the physical signs indicative of each lesion; the heart should be examined regularly without waiting until the patient complains of dyspnea, faintness, or pericardial pain.

Sore throat, which is a very common symptom, was absent in both of these cases. So frequently is tonsillitis found among the early signs of rheumatism that the tonsils are regarded by many as the great port of entrance of the rheumatic poison into the body.

In the treatment of rheumatism, rest in bed is an essential factor, and should be maintained for at least ten days after the temperature has become normal and all other symptoms of the disease have disappeared. Freedom from pain in the joints must not be taken as the indication for allowing any indulgence to the patient, because cardiac changes may arise after the joints have recovered; furthermore, myocardial changes may exist with very few symptoms until the muscle yields under imposed strain, and therefore the patient should be kept at rest so that both myocardium and endocardium may have ample opportunity to recover from any injury to their structure.

Sodium salicylate is the remedy most frequently used in the treatment of rheumatism. It should be given in doses of twenty grains every two hours until the fever is reduced and the acute articular pain subsides, after this the intervals between the doses may be increased to four or six hours, and continued in this way for at least four weeks. If the drug be discontinued before this time, the patient is almost certain to suffer from a return of the symptoms, and hence it has been said that acute rheumatism, like other fevers, is a self-limiting disease and that salicylates do not shorten its duration, but merely prevent its injurious effects upon the tissues. The manner in which salicylates act is a matter

of much discussion and must remain so until we have a more perfect knowledge of the pathology of the disease. Clinical evidence appears to encourage the idea that the benefit is obtained from the destruction of toxins, but the fact that the malady recurs unless the remedy is continued for a length of time does not prove the absence of a direct effect upon the micro-organism, because it is a well-known fact that quinine, when properly administered, destroys the parasite of malaria fever, nevertheless if it is not continued in smaller doses for two or three weeks after the plasmodia have disappeared from the blood the chance of relapse is as great as in rheumatism when the salicylates are prematurely discontiued. The solution of the problem awaits a more perfect knowledge of the micro-organism.

The salicylates may distress the stomach, depress the heart, cause delirium or other nervous disturbance, produce albuminuria, or give rise to a variety of skin eruptions. The gastric trouble is often due to the sweetish taste of the drug which may be obviated by the addition of some bitter preparation, such as gentian, to the solution. The cardiac depression may be prevented by the simultaneous use of stimulants, and the nervous disturbance alleviated by the free administration of bromides; yet it sometimes happens that the drug must be discontinued for some of the above reasons, and in the case of albuminuria its temporary or permanent interruption is imperatively demanded. Salicin or salol may be substituted for salicylates except when there is renal disturbance. In addition to the salicylates, an alkali, such as the citrate of potash in twenty-grain doses, should be given so as to maintain the alkalinity of the blood, because clinical statistics show that in cases thus treated there is less tendency to fibrinous deposits upon the valves. Cardiac complications are often cut short by the application of small blisters over the precordia. Of course under such circumstances there is the most urgent necessity for insisting upon absolute rest. This method of counterirritation is not only recommended for the cure of cardiac lesions, but its adoption is advised as a preventive measure in all cases of acute rheumatism. The tepid bath, 70° to 75° F., is the only reliable treatment for hyperpyrexia, and it must be carried out with the precautions already discussed when talking of the bath treatment in other febrile diseases. It is not advisable to do much for the joints beyond keeping them warm and rolled up in anodyne fomentations; blistering and other forms of counterirritation are more useful in the subacute types where the pain is more liable to become limited to one joint.

At first the food should consist chiefly of milk, but, as the symptoms abate, broths, farinaceous substances and white fish may be gradually added to the dietary. During convalescence there generally is a condition of anemia which is best treated by some form of iron such as Blaud's pills.

ANESTHESIA AND ANALGESIA. A STUDY OF DRUG ACTION AND MODERN METHODS.[1]

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HALF a century ago there was little need of differentiating analgesia from the general term of "anesthesia," alone in use at that time, for medical science then stood so near the threshold of modern progress over which ether had stepped that its rival, chloroform, was scarcely known by name. The vast field for the application of anesthesia was hardly realized, nor was there any conception of the possible number of the anesthetic agents now in use, nor the variety of action or methods at present distinguishable for ether or chloroform alone.

The production of anesthesia by drug action has developed so great a variety of methods and agents that a study of the subject in general requires a classification.

By defining anesthesia as a more or less prolonged suspension of central perceptions of an impression transmitted through the usual or special sense channels (unconsciousness), we eliminate from consideration as anesthetics such agents as may be used to paralyze the sense organs themselves and thus make impossible the generation of a sense (peripheric) impulse. A special condition of the latter class of agents might require that by purely physical means should be produced the paralysis of the peripheric sense organ, such as is due to the mechanical congelation of the local tissues. In this class belong the so-called local anesthetics, of which the ether spray was the pioneer and the present methyl or ethyl chloride tubes are the more modern developments. The action in all of them is the same—an evaporation cold which arrests the functional life of the affected tissue cells, *i.e.*, their congelation.

None of the chemical compounds of this physical class have any other action that is to be considered as a property of the local anesthesia thus engendered. There are others of the so-called local anesthetics which possess veritable pharmacological properties, extra- and intracellular in their action. Of these, the salts of cocaine, whether in topical application or by infiltration, offer the most typical examples, preventing sense perception by suspension of the peripheric cell vitality, resulting from the temporary vascular constriction, the pharmacological peculiarity of this drug. In this case only the local anesthestic effect is to be considered and alone is desired. The symptoms caused by the introduction of cocaine into the general system are by no means those of anesthesia. In its action by vascular constriction this agent becomes typical of the extracellular division of its class. Pericellular would be a more exact designation term, referring thus to

[1] Read at the thirty-fourth Annual Meeting of the Medical Society of the State of West Virginia, Grafton, W. Va.

the pericellular vascular system, the constriction of which suspends intracellular diffusion and, as a consequence, all vital functions of each affected cell.

A bastard type of such anesthesia, but this time intracellular, in so far as it depends upon the destruction of the cells themselves, is the loss of sensibility of tissue that is characteristic of the more or less caustic antiseptics—the phenol group—and those nitrogen-containing molecules so invariably alkaloidal, from the simple hydrogen cyanide though the hydrogen, carbon, nitrogen amines and alkaloids, up to the oxygen-containing complex molecules of alkaloids, such as aconite or atropine, in all of which the contained nitrogen marks for destruction one or more of the cellular elements of the tissue, and, on such intracellular disruption, conditions the non-transmission of a sense impression.

To consider the foregoing agents as in any sense productive of anesthesia would depart widely from the general definition of that state which, understood in its original intent, requires a general unconsciousness. In all of these agents of local anesthesia mentioned, no general unconsciousness is understood nor permitted to exist. Only the limited locality, submitted to the influence of the agent is allowed to undergo a greater or less alteration of normal sensibility. And not even for the locality affected is there of necessity a complete inaptitude for sense impression. In many cases it is easy to demonstrate that the muscular sense remains, also the perception of cutaneous or mucous contact, and frequently even the power of distinguishing degrees of heat or cold persists indefinitely, with little impaired accuracy, when cocaine infiltration is used.

By pushing to an ultimate analysis the majority of cases for which anesthesia is demanded it will be found that no condition of unconsciousness is either wanted or necessary; not even a localized tissue anesthesia is requisite. All that is usually demanded of an anesthesia, the object of the use of such an agent, is the suppression of pain, only one of the many impressions which sensory nerves convey to the brain.

In most surgical cases, what does it matter if there be consciousness of touch, of heat or of other sense impression, provided that there be no knowledge of existing pain?

The inability to receive a pain-impression constitutes the state of organism defined as analgesia, a term which applies to any painless condition where the remaining sensibilities of the organism are, to all intents and purposes of drug administration, to be considered normal.

In contradistinction to anesthesia we may say that analgesia is a necessary element of the former, but the latter term is only applied to a condition in which no trace of the former is essential or desirable.

For the reason, then, that the so-called local anesthetics never induce a general unconsciousness of the organism to its surroundings, and that the most typical of the group is most decidedly analgesic and not anesthetic at all, let us pass them without further comment than the preceding notes, remarking their generic name of local to distinguish sharply the fact that the entire group—with an exception to be taken up later—are to be thus used as they are rigidly excluded from any general action upon the organism.

Their exclusion from any general action accords to this group, however, a much valued factor of safety, *i.e.*, the absence of dangerous reaction of the general system which assumes a most threatening rôle when real anesthesia is considered. For by definition this last condition alone is resultant of a general drug action upon the entire organism, that which is invariably to be considered as a general intoxication. To produce, then, a general intoxication of the body, prevent all consciousness, but have untouched the vital reflexes of organic life, rapid in induction and in recovery, and affecting to the least possible degree the tissue life and function outside of the desired period of suspended sensibilities, would be the proper idea of anesthesia.

For the means of producing such conditions in ideal perfection, the search is never ending.

First in the order of discovery and still foremost in popular use are nitrous oxide and ether. Equaling, if not more efficacious, although decried as more dangerous, comes their tremendous rival, chloroform, and more recently, exactly as the latter agent concentrates the attack for advantage in a comparison to ether, for the reason that both are eligible for choice for prolonged action of the drug; the nitrous oxide, which (except by special provision) is restricted to a short effect, is as seriously rivaled by the growing claims to a predominant place for ethyl bromide.

There is scarcely any medical journal which does not devote some portion of its space to a report of the struggle for supremacy of the giants of anesthesia—ether and chloroform—or of its skirmishers, the quick-acting agents of short narcosis—nitrous oxide and ethyl bromide.

The dissemination of modern science and its methods of investigation is now so extensive that a body of medical men when investigating the claims of superior adaptability of one or the other of these agents, no longer contents itself nor even considers as of scientific value the relation of individual habits and preferences. The falsehood of statistics is widely admitted and more widely felt when applied to our own experiences. Whatever value experience meetings may have in other fields, the increasing precision of the medical sciences has already attained the level which demands that the full bearing of the fundamental and scientifically controlled facts of the matter at issue be shown before that any experience testimony is acceptable for a solution of the problem of the relative desirability of anesthetic agents.

The object of this paper is to state briefly the usual physiological action of some anesthetics competing for popular favor, and then to point out possible deductions and therapeutical conclusions.

The property of tissue intoxication rapidly producing anesthesia with a minimum of organic shock or reaction is possessed by the simple radicals of the first open chain of hydrocarbons, the saturated series. Taking the first radical of this series, methyl, CH_3—and the second, ethyl—CH_3, CH_2—as types of reference, with the preliminary statement that the property of anesthesia is by no means limited to them but belongs equally to the radicals of this and other open hydrocarbon chains (the unsaturated chain-series, we find by biological experiment to determine relative toxicities (toxic coefficients) that these are least for the simplest saturated carbon radical methyl (CH_3).

The toxicity increases in direct ratio to the concentration of carbon in the radical, as does also the rapidity with which anesthesia can be induced, provided for the latter event that the method of administration be such that the dose-time relation can be maintained unchanging throughout the experimental series. That is to say, in case of administration by inhalation, that there be no marked difference in vapor tension of the successive drugs of the series compared.

The increase of toxicity directly with the concentration of carbon in the radical is nicely demonstrated, together with the increased rapidity of action in the use of acetylene gas C_2H_2. With this agent the anesthesia is induced with great rapidity of action, the passage to the unconscious state being almost instantaneous, but the great excess of relative carbon in the radical gives such a factor of toxicity to the compound that a dose sufficient to produce any pronounced degree or extent of anesthesia is invariably fatal to the life of the organism.

The introduction of oxygen to the hydro-carbon molecule, the formation of an ether, for example, CH_3, CH_2—O-CH_2, CH_3, ethyl ether, apparently renders the anesthetic no more toxic, but slower to induce and so modified that a complete unconscious condition is only to be obtained after a more prolonged and violent stage of cerebral excitement, than is usual where hydro-carbon alone or their radicals combined with the halogens chlorine, bromine, or iodine are used.

The compound formed by any halogen with the organic radical shows greatly increased toxicity and this toxic factor multiplies directly with the number of elements of the halogen introduced into the molecule and likewise directly with the relative density or weight of the halogen in question. Thus the chloride of methyl, CH_3 Cl, is far more toxic than its radical CH_3, or the higher radical ethyl, CH_3, CH_2. In return it is of greatly increased anesthetic energy, a smaller amount of the agent being required to effect unconsciouness and maintaing this for a longer period.

In the same way, the further addition of the molecule forming the bichloride of methyl, CH_2, Cl_2, develops a still greater toxicity as well as energy and the further chlorination of this compound, making chloroform, the tri-chloride of methyl, CH Cl_3, represents the maximum chlorine saturation of the radical and by the same formulation shows the physiological toxicity and anesthetic power of this drug surpassing any of the simpler hydro-carbons, their radicals or oxides (ethers).

By reason of the hyperchlorination of its molecule, chloroform is justly proclaimed more toxic than its rival, but an offset compensation is constituted by its correspondingly increased anesthetic energy. In other words, a much smaller amount of chloroform than of ether, or the lower methyl chlorides would be fatal. On the other hand it is evident that by reason of the increased anesthetic energy of the first article, no such quantity of it is required for the desired effect as would have to be employed for the like effect when the other anesthetics, above enumerated, would be used.

Whether the relatively small dose of chloroform be more, less, or equally toxic to the organism when compared with the larger doses of ether or similar agent that must be employed for an equal physiological response is the precise question to determine the rivalry of these anesthetics and within these limits alone is there field for discussion.

To continue our general laws of toxicity we repeat that this factor is increased directly as the weight of the halogen combined with the radical. That is to say, the substitution of bromine instead of chlorine, in equal numbers of atoms, determines a greater toxicity for the resultant bromide. The elements of the halogen family, of atomic weight heavier than bromine so greatly increase the toxicity of the molecule as to render such compounds dangerous in doses too minute to induce any symptoms of anesthesia.

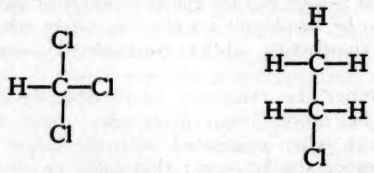
The change of molecule containing chlorine to the similar bromine substitution product by no means increases the toxicity to the degree that the introduction of a second like halogen atom to the radical effects. This means that a mono-bromide is in any case less toxic than the bichloride of the same radical—the administration of either kept below the point of tissue saturation.

In confirmation of the above we observe that whereas chloroform, CH Cl_3, is safe for internal administration even in doses to the point of producing a marked effect of general anesthesia; almost the same amount of bromoform, CH Br_3, is permissible; but when the additional toxic factor of concentrating the carbon in the radical is added to that of the halogen combination the danger line is soon reached. For example the chloride of ethyl, CH_3, CH_2 Cl, is a comparatively safe and valuable anesthetic, the ethyl bromide, CH_3 CH_2 Br, is also harmless to the point of induced anesthesia, but must here be stopped to avoid the administration of a quantity which by reason of the increased toxicity of the molecule soon threatens the vitality of the tissues, the penalty of their saturation by this drug.

The difference in the toxicity of the chlorine and the bromine molecule is here most strikingly shown.

Notice that the mono-bromide of ethyl, CH_3, CH_2 Br, is harmless for a short administration, but must not be continued, by reason of the accumulating dose rapidly carrying its action across the line of safety. On the other hand the mono-chloride of ethyl, CH_3, CH_2 Cl, can be used for a relatively prolonged anesthesia and by many investigators, with strong physiological experiments to back them, the fact is insisted upon that it is essentially a far safer agent of anesthesia than chloroform, the tri-chloride of the safer radical methyl.

Place the chemical formulæ in antiposition and judge for yourselves.



Exception taken for the molecular differences and consequent wide variation of toxicity, the two rival anesthetics, ether and chloroform, possess very similar physiological properties. Both are best and practically exclusively administered by inhalation in order; by reason of the extended area of absorption surface offered by the areolar tissue, to secure the rapid saturation of the blood to exactly the requisite degree at the same time maintaining the minute control of dose of the inhaled vapor which is essential where such active agents of intoxication are employed to bring about a necessary general reaction, the least over-effect or prolongation of which would be dangerous if not fatal to the life of the organism.

The wide limits of quantity within which ether can be safely used render its method of exhibition of relatively small importance and the only requisite of apparatus insisted upon is an arrangement for sufficient aeration of the inhaled vapor to prevent the asphyxia resulting from the more or less mechanical exclusion of air, a defect of the usual ether cone if too closely applied over the mouth and nose.

The exigencies of utilization of chloroform are different. Recent contributions to our knowledge of its toxicity have established as absolute the necessity of administering this agent in small (drop) doses, its vapor largely diluted with air.

That the successful chloroformization depends much more upon the skill and intelligence of the anesthetizer than upon the form of administration apparatus or special method, provided that the exhibition of the agent in small continuous doses be adhered to, is shown by the recently published report of the Anesthesia Commission of the British Medical Association. In this report in which the cases of narcosis are confined to the large English hospitals, where skilfully trained and expert anesthetizers are invariably employed, it is exceedingly interesting to note that the danger rates range from 1 to 2.14 per cent. regardless of mask, cone or compress methods.

The intricate physiological changes induced by any general intoxication sufficiently indicate that the safety lies far more in the experience and knowledge of the man, who controls the agent producing these phenomena, than in any mechanical device or routine method.

Let it suffice then to insist upon the pharmacological education and clinical training of this man, with an additional plea—other things being equal—for the simplest apparatus and method *always with small doses.* This would favor the adoption of the *compress* and *drop method* for the habitual exhibition of chloroform.

Ether and chloroform in small initial doses, acting upon the sympathetic nervous system, quicken the beat of the heart and produce a peripheral vascular congestion, perspiration and salivation. But both act promptly upon the cerebral cortex, stimulating the organ by irritation, excitement—action, but with a difference in degree of intensity and of time; chloroform shows the stronger and briefer irritation that of ether being more mild but prolonged.

A reference to the physiology of cortical irritation in the motor region reveals the consequent obligatory reflex action to be a quickened respiration in response to a feeble irritation, with an accompanying diminution of the depth of inspiration. If the irritation excitement becomes stronger or more prolonged the respiration is slowed with increasing exaggeration of the time and depth of the inspiration.

The same influence, which, transmitted by the pneumogastric nerve, affects the respiration in the maner above described, also reacts directly upon the heart which though increased in force is soon lessened in frequence by a moderate irritation of the cortex (ether). But a stronger irritation of this region stops the heart beat (the death of initial anesthesia by chloroform, *i.e.*, primary cardiac syncope).

Without wishing to deny the physiological fact of reflex irradiation from an irritated branch region to the production of a reflex pneumogastric arrest of the heart (the fatal naso-pharyngeal mucosa irritation attributed to chloroform) we can not refrain from pointing out the fact that primary cardiac syncope appears when all possibility of such irradiation reflex has been removed, (cocainization of the mucosa or section of the recurrent branch of the nerve), and we beg to insist upon the fact that the arrest of the heart is inevitably the physiological sequence of a strong irritation of the motor region of the cerebral cortex.

On account of the greater energy of intoxication possessed by chloroform in contra-distinction to the more moderate effect of ether, it is easy to conceive of a chloroform cortex irritation insufficiently strong (when the agent is administered in a too concentrated vapor) to provoke the direct physiological response to such a degree of cortical excitement, the immediate exertion of the pneumogastric function and its consequent cardiac syncope. While the lesser toxic

factor and energy of ether does not allow the possibility of its exhibition in sufficiently rapid or concentrated form to ever attain the necessary degree of *strong* cortical irritation which can and inevitably does produce the arrest of the heart, a full realization of these possibilities fixes indelibly upon the mind the peculiar necessity of minute doses and slow administration of chloroform until the first excitement stage of its anesthesia has been successfully passed.

This primary cardiac syncope is the great burden of responsibility under which the chloroform adherent must act. Little if any of this danger can be charged to ether.

The peculiar action of continued chloroformization in weakening disproportionately the auricular contractions of the heart, the resultant venous stasis, arterial ischemia and consequent paralysis of heart or respiration are so well described and verified in treatises of pharmacology that only a mention of these phenomena is needed here. Such description presents a most rational conception of the cardiac symptoms of secondary anesthesia, and sufficiently explains the danger of toxic doses or too long continued exhibition of chloroform.

It is very generally conceded that fatality of this order is avoidable by the skill of the anesthetizer and that the consideration of secondary syncope alone would leave the anesthetic in question decidedly less threatening than ether.

This latter agent, escaping the charge of exposing the organism to primary cardiac syncope offers, however, a tableau of progressive centrai depression with each stage and prolongation of its anesthesia. The heart and respiration in close coördination are diminished in frequence of action or volume of efficiency. The gradual loss of tissue function is evinced by their ischemia or cyanosis and the lowering body temperature. With the prolongation or depth of anesthesia, the continued depression becomes threatening and, more frequently than with chloroform, the progressive depression is not arrested by cessation of the exhibition of the drug, not even by energetic counterstimulation and the ultimate collapse of the organism is only kept from the list of ether fatality by its designation on the death-roll as *shock*, the prolongation of the period of increasing depression having permitted the removal of the victim from the scene of operation and possibly a survival of the narcosis period for several hours or days.

Thus progressive depression of ether with its final arrest of respiration is in all probability more frequent and inevitable than the secondary fatal accidents of chloroform. To ether also must be charged the numerous and often fatal complications induced by its specific irritation of the bronchial epithelium.

There is a growing consensus of opinion that if chloroform could be relieved from the accidents of primary syncope there would be little hesitation to admit its claim to be the master of anesthetics.

To accomplish this relief or find a more ideal agent of narcosis has become a most important object to the physiologist and surgeon.

To avoid the point of danger, the strong excitement of the cerebral cortex that accompanies the initial use of chloroform, English surgeons are employing nitrous oxide to induce the anesthesia which condition is then easily maintained with chloroform.

French physiologists have proposed to reduce the excitability of the motor-cortex by the preliminary drugging of the organism with atropo morphine, but the consequently inevitable coincidence of depressant effect of the atropine, morphine and the similar secondary action of either chloroform or ether narcosis, all of them acting as united depressants of the bulbar centers, can only be regarded with great suspicion of cumulative danger.

With the same object in view, to remove from the exhibition of chloroform its dangerous first stage, the strong cortical excitement, Dr. Hartman, Dr. Bourbon and the writer suggested and extensively used at Hôpital Bichat in Paris, since 1892, the remarkable agent of short narcosis, ethyl bromide. With this drug the initial anesthesia is rapidly induced without distress and can then be maintained with very minute doses of chloroform. For various reasons ethyl bromide appears to be particularly adapted for such purposes, relieving the initial danger factor of chloroform.

While the limits of our time prevent any special study of the physiological action of this last compound, we must stop long enough to point out, that by the ethyl radical, CH_2, CH_3, this bromide possesses all of the advantageous properties of anesthesia offered by ether, without the disturbance of mentality and slow induction which result from the contained oxygen of the latter molecule. And last, but of far-reaching importance, it must be remembered that ethyl bromide offers in every respect all of the particular pharmacological actions of the *bromides*. The same cerebral quiescence that is expected when alkaline bromides are exhibited is to be obtained with the same salt of the organic radical.

The possible consequences thereof strike us forcibly.

Here is the agent of anesthesia, ideal in its ease of administration, rapidity of action and perfectly safe for the induction of the unconscious stage which results without marked cortical excitement because of its suppression by the bromide quiescent action inherent to that drug, efficiently counteracting the influence of cortex-irritation otherwise to be expected by reason of its ethyl radical.

The extended use of ethyl bromide confirms more deeply this method of mixed anesthesia as fixed upon a sound physiological basis.

It must be said in passing, however, that the *absolute* necessity of a chemically pure compound is a reason for insistence upon a careful examination before use. So difficult is it to obtain a

perfectly pure ethyl bromide, that we, invariably, personally attend to its manufacture, if not able to know that the chemical has been freshly prepared for us by an expert chemist. The degree of skill which is essential for the preparation of this product in a state of purity to guarantee its physiological safety, is of such a high order that no preparation in this country would be considered safe unless personally prepared or guaranteed by a chemist of such marked ability as that of Dr. Kortright of the State University. Remember that chemists of sufficient ability in the organic field to be of value in a question of this class are exceedingly rare.

We repeat that *absolute* purity is the only condition by which ethyl bromide can be admitted as an agent of almost perfect safety for the induction of anesthesia. The dangers of its cumulative dose and consequent restriction to short narcosis have been previously explained.

For prolongation of unconsciousness, the narcosis induced by this bromide is easily and safely continued with chloroform in very small quantity. A teaspoonful of chloroform (in drop doses) is frequently all that is needed to continue the ethyl bromide induced anesthesia for the space of an hour.

The consideration of the molecular properties of anesthetics have so occupied our study that we cannot continue to encroach upon the time of this meeting to particularize the topic of analgesia, its uses in surgery, scope or limitations of application.

We can only remark that analgesia is apparently the property of all of the usual anesthetics. The wide range of "cortical or primary anesthesia," one of its methods of induction, attests that fact.

A new method of anesthesia, the spinal cocainization, awaits the consideration of the medical profession.

Of this, as well as of "cortical anesthesia," we hope to hear from others. If not, these two subjects must be laid over for consideration in a future paper.

LAGER BEER IN ACUTE VOMITING.

BY LOUIS KOLIPINSKI, M.D.,
OF WASHINGTON, D. C.

ACUTE vomiting is a severe symptom frequently encountered in abdominal and in female pelvic disease, in nervous disorders, and in acute general infections, with or without febrile reaction. To combat speedily and successfully this gastric derangement is the urgent duty of the medical attendant. A varied host of medicinal and dietetic remedies is at his command. Often, however, it is found necessary to alter one's mode of attack, often to withdraw in rapid succession various agents that fail. At times this symptom is so unmanageable that even a skilled and experienced clinician may meet defeat.

For these reasons, after long hesitation, but after a much longer trial of the remedy, the writer has concluded to call attention to the usefulness of lager beer in arresting obstinate vomiting. Its action is certain, intolerance rare. Its after-effects, as every one knows, are soporific. Attention was attracted to its virtue by the "craving desire for it" of some patients severely distressed with vomiting. Their request being complied with they expressed a feeling of great comfort and relief.

The beneficial effects are most marked in women and in those who are not habitual consumers of alcohol as a stimulant or intoxicant. Of the two varieties of beer—the pale and the dark—the latter is preferable. As to the quantity to be given, the amount need be but small, a bottle or two suffices. Singularly good results can be obtained from small doses. This is illustrated in the attacks of nausea, bilious vomiting, vertigo and sleeplessness, often a striking syndrome of epidemic influenza in women; a wineglass of beer, repeated in half an hour, will immediately soothe the disturbed organ and give a night of refreshing sleep.

The following shows its action in a case in which, all else unavailing, it cured.

A young man, twenty-five years of age, addicted to the cigarette habit and also a "graduate of the Keely cure," was seized at the end of a week's debauch of whisky, with bilious vomiting, insatiable thirst, abdominal soreness and pain. The stomach was intolerant of everything. The vomiting continued all day at intervals of ten or fifteen minutes. With the approach of night he was very much prostrated. The irritability of the stomach was increasing. He was given a glass of beer at 9 P.M.; water was withheld. The beer was repeated at intervals. He slept through the night. There was but one return of the vomiting and that at 2 A.M. The next day the patient had recovered.

As to the make of the beverage, the writer has no particular brew or brand to praise. In controlling vomiting he has not found any one's manufacture of especial value. In very severe and persistent vomiting, of four days' duration, caused by an inflammation of an ovary and Fallopian tube, immediate relief came after the patient had drunk the contents of three bottles of pale beer of inferior and adulterated composition.

CONSERVATIVE OPERATIONS UPON THE UTERINE ADNEXA.

BY HENRY T. BYFORD, M.D.,
OF CHICAGO.

IT IS very seldom necessary to remove the uterine adnexa for inflammatory disease. Although I believe that the sexual organs are of no benefit to their possessor, as far as promoting physical vigor or increasing longevity are concerned, there are many minor reasons for preserving them. I believe that after the age of thirty years these organs have already served

their function in stimulating individual development. After that age they are only of use to propagate the species, and, in functionating, act more or less as a drain upon the general system and tend to hasten senility. Yet women prefer, as a rule, to suffer with unhealthy organs rather than have them removed, and the prejudices of society are such that it is an unfortunate thing for a woman not to be able to retain them. I, therefore, consider it my duty to the individual patient to preserve sufficient ovarian tissue for normal function in women under forty years of age, even at the risk of their being obliged to undergo a subsequent castration.

There are three questions to be asked in determining what shall be done in a given case of disease of the adnexa that cannot be cured without opening the peritoneal cavity, *viz.*, (1) Shall we leave the ovaries and tubes intact and merely separate adhesions, replace the organs, etc? (2) Shall we remove the diseased portion of the ovaries and leave the best part of them, open up and clean out closed tubes, etc., and thus get rid of the diseased tissue without abolishing function? Or (3) shall we remove the diseased adnexa so completely as to bring on the menopause and prevent the monthly hyperemia?

There are undoubtedly cases in which the conditions require the complete abolishment of the monthly hyperemia of the sexual organs. Of these I will not speak. There are other cases in which separation of adhesions and suturing of the parts on a higher level may be all that is indicated. These I will also pass by. It is the second class of cases that I wish to consider, *viz.*, those in which the diseased portions of the ovary must be excised, the tubes made previous, and the patient left unaltered as far as her sexual functions are concerned.

Since peritoneal sections have become comparatively safe, it is not such a terrible misfortune if the patient should be obliged to submit to a second operation, and we are sometimes justified in recommending and performing conservative operations even when there is no certainty of a cure. We have also learned that purulent sactosalpinx is not a contra-indication to conservatism, for the pus in most cases has become sterile or is but feebly septic, and the communication of the tubes with peritoneal cavity and thus its usefulness as a transmitter of the ovum can be restored without danger or bad effects.

Severe septic cases of disease of the uterine appendages with habitual elevation of the body temperature, frequent acute attacks, large accumulation of pus, and complete disorganization of the tubal walls and ovarian structures should not as a rule be treated in a conservative manner.

Eliminating the septic cases just mentioned we have a very large majority left in which we can assure the patient that the diseased tissue can be removed or treated without interfering with her sexual functions or vigor. This I consider one of the chief advances made in modern gynecological surgery.

When there is for any good reason an objection to an abdominal incision, the same work can often be done by the vaginal route, although the abdominal operation more often gives good results.

The only argument which I care to advance in this short study is that we are doing such operations and that the immediate as well as remote results are good. Before abdominal sections were performed for adherent appendages, gynecologists recorded a large percentage of symptomatic cures without any operation, and now that we are operating in a conservative way we are likewise observing a large percentage of cures without complete removal. In other words, we are becoming more and more convinced that complete castration is to be reserved only for extreme cases.

I will only take up your time with two cases representative of many others which I am constantly performing. Dr. A. Palmer Dudley of New York has also reported a number of operations for pyosalpinx. It was his pioneer work that encouraged me to extend my conservative operations to adherent and occluded tubes.

I was called to see Miss H. in April, 1898, and found her in bed. She had been broken down in health for a year or more, and had taken local treatment and the rest cure without benefit. Her local symptoms were dysmenorrhea and pelvic pain. A consulting gynecologist of wide experience had recommended removal of the ovaries and uterus as the only means of getting her out of her deplorable condition. I found double oophoritis, a small cervix and moderate uterine hyperplasia. I dilated the cervix, curetted the uterus, made a peritoneal incision through the posterior vaginal fornix, and removed about two-thirds of each ovary, leaving only what seemed to be healthy tissue. The patient recovered promptly, married in a year, and has been well and hearty since.

In another case, that of Mrs. J. S. S., on February 15, 1901, I did an abdominal section and found both tubes occluded. The right tube contained cheesy matter and its walls were thickened and hardened from interstitial inflammation. The left tube contained a little turbid mucus. The left ovary contained a hematoma the size of a walnut. The appendages of both sides were extensively adherent. I separated the adhesions, removed a large part of the right ovary, opened the fimbriated extremity of both tubes by incisions, and sutured the mucous to the peritoneal coat in order to insure permanent patency. The contents of the tubes were pressed out, and the cavities syringed with sterile water. The peritoneal cavity was closed without drainage. The patient walked about the room at the end of three weeks. Her immediate recovery was about as rapid and complete as in those cases in which the ovaries and tubes are removed *in toto*, she continues well, and complains of no symptoms whatever.

100 State Street.

ACUTE EDEMA OF THE UVULA, PALATE, PHARYNX AND EPIGLOTTIS, FOLLOWING THE EXCESSIVE APPLICATION OF ADRENAL SOLUTION PRESERVED WITH CHLORETONE.[1]

BY SOLOMON SOLIS COHEN, M.D.,
OF PHILADELPHIA.

THE folowing report of an isolated observation may be of interest in view of the wide and increasing use of the various preparations of the adrenal gland, which, as one of the pioneers in these therapeutic applications, I have employed freely and do employ freely with the confidence born of repeated demonstration.

Rev. Father X. has been under my care for a number of years for recurring attacks of asthma. The patient is stout and plethoric, although active mentally and physically. In addition to asthma he was troubled with hoarseness and, at times, difficulty in phonation. When first seen, examination of the heart revealed no structural change, but somewhat feeble action; examination of the lungs elicited the usual phenomena of spasmodic asthma; examination of the nose disclosed no significant abnormity of structure, but considerable general congestion and slight turgescence of the middle and lower turbinates. Examination of the larynx showed thyro-arytenoid paresis of slight degree, and what, at first sight, appeared to be two papillomata symmetrically located on the two vocal bands posteriorly at their insertions into the arytenoids. The larynx was congested throughout. Spraying with adrenal solution, made extemporaneously, reduced the congestion, and it was seen that the apparent papillomata were simply circumscribed, boggy relaxations of the mucous membrane. These retained their pink color, though the hue was of lessened intensity, The diagnosis was confirmed by Dr. J. Solis Cohen, who, later, saw the patient in consultation. Under treatment, which included appropriate general medication, the application of astringent solutions locally, faradic applications over the larynx externally, and the use of adrenal extract internally, the patient improved rapidly. Recurrences of asthmatic paroxysms became less and less frequent, the voice became stronger and clearer, complete approximation of the vocal bands was made, the protuberances having become much smaller and the right passing under the left in phonation. The patient, who had been working very hard, establishing a new school in his parish, in addition to his ordinary priestly duties, was advised to take a long vacation. He made a winter cruise to the Mediterranean regions, returning thoroughly well, except for the condition of his larynx. He was then placed under the care of a teacher of vocal exercise, and continued to improve in all respects except that after prolonged use of the voice in church services or upon pastoral visitations, and occasionally after exposure to cold and wet, the larynx would become intensely congested, and asthmatoid symptoms would recur, though not with such severity as to warrant calling them attacks of asthma. In order to ward off such recurrences, the patient was given a solution of adrenal substance in glycerin and water, prepared by Mr. F. E. Morgan, the well-known pharmacist of Philadelphia, and instructed to use it as a spray, more or less constantly, preceding the spray of zinc sulphocarbolate in rosewater that he was using twice daily; which he did with good results. When Messrs. Parke, Davis & Company placed upon the market their solution of suprarenal substance preserved with chloretone, this was substituted for the glycerin extract formerly used. One night I was called in haste, being told that Father X. had a very severe attack of asthma and could scarcely get his breath. The appearance of the patient was different from that presented in ordinary attacks. The face was very much flushed, but dusky; the breathing was evidently painful, and there were slight inspiratory stridor; asthmatic râles were not evident, though the stridor made in the larynx was heard over the chest. Upon examination the uvula was seen to be swollen to about three times its ordinary size, evidently much distended with fluid. In color it was nearly white. The palate and half arches and a portion of the posterior wall of the pharynx were likewise markedly edematous, and there was slight edema of the epiglottis. The interior of the larynx, fortunately was clear. The patient stated that he had gone through a period of very great use of the voice, that his throat had begun to feel uncomfortable, that he had sprayed the pharynx and nasopharynx very vigorously and for a prolonged period, possibly three or five minutes, with the suprarenal-chloretone solution. No effect upon the heart seemed to have been caused by the application. The uvula and palate were scarified in several places, but little fluid exuded, and scarcely a drop of blood. It was not deemed necessary to scarify the epiglottis. The patient was advised to keep at rest, a drastic purge was given, and gargling with lukewarm water, aromatized with toilet vinegar, was advised. In about an hour, whether spontaneously or otherwise, the edema began to subside sufficiently to permit of greater ease in breathing; if, indeed, the visible edema was the direct cause of the difficulty, and not merely an indication of a general condition of the respiratory mucous membrane which subsided with it. In about an hour more the patient was feeling very comfortable, and I felt warranted in leaving him. Traces of the edema of the uvula were visible for three or four days.

While I am of the opinion that the condition described was due to the effect upon the blood-vessels of an overdose of suprarenal solution, and possibly to the concomitant influence of the chloretone, I have not felt justified in making any experiments to determine the point. The patient was instructed to go back to his old preparation, and to use it with moderation, since which time no further bad symptoms have occurred. The

[1] Read by title before the American Laryngological Association.

solution to which I have referred is not that of adrenalin chloride now available, but the extract of suprarenal substance with chloretone which was previously placed upon the market. I have used the adrenalin chloride solution as prepared with much satisfaction in the treatment of hay-fever and other relaxing conditions, in various strengths, from 1-1,000 to 1-5,000, and have not observed any ill-effect either from this or from the chloretone accompanying it.

MEDICAL PROGRESS.

Proteolytic Action of Bacteria.—This subject is of interest from the standpoint of the relation of intestinal bacteria to the digestion of albuminoids. Much experimental work has been done in this direction, the most recent coming from Ernst Cacace (*Ctlblt. f. Bak.*, Aug. 26, 1901). He has investigated the proteolytic action of the sarcina aurantiaca, bacillus anthracis and staphylococcus pyogenes aureus. He cultivated these on a 10-per-cent. aqueous solution of gelatin and also on coagulated cow blood-serum. He employed for the inoculation of these media pure agar cultures of these organisms in large amount. In such inoculated blood-sera he found proto-albumins and deutero-albumins in large quantities and also traces of peptone. In the gelatin growths there were present proto- and deutero-gelatins with traces of gelatin peptone. He believes that proteolysis is a property of all living beings.

Foreign Bodies in the Nose and Ear.—The general practitioner is frequently called upon to remove foreign bodies from the nose and ear, and it is well known that unskilful management of such cases has probably caused more injury than the presence of the annoying bodies. P. Friedenberg (*Med. Rec.*, Sept. 21, 1901) deprecates the use of forcible syringing to remove bodies from the nose. Direct syringing of the obstructed passage through the anterior nares or, better still, through the pharyngeal opening by means of a post-nasal syringe is much safer and better. Drawing a tampon of moistened gauze through the nasal cavity, according to Sajou's method, is frequently successful. Direct extraction by instrumental efforts must then be tried and a strong bent probe, a hook or wire loop or a blunt curette may be passed between the nasal wall and the foreign body. It may be necessary to push it back into the nasopharynx, but care must be taken that it does not enter the larynx. The forceps or galvanocautery may be used to diminish its size and in some cases of rhinoliths chemical agents may be employed. Insects and maggots are best treated by chloroform injections, pure or in mixture. Foreign bodies of the ear seldom necessitate immediate removal and no hurried unskilful operation should be attempted. In most cases repeated syringing with a warm boric-acid solution to which lysol or soap has been added is successful. A large perforation is practically the only contra-indication to syringing. Instrumental removal should be done only with the greatest care.

Idiopathic Dropsy.—Although this condition is mentioned in a good many textbooks on medicine, it seems not yet to have been given the consideration which its gravity and frequency warrant. W. P. Herringham (*Brit. Med. Jour.*, Sept. 7, 1901), after carefully reviewing the histories of the few recorded cases, concludes by asking and answering the three following questions: (1) Is the disease really nephritis? (2) Is it in any case entirely dependent upon anæmia? (3) Is it a condition distinct from either? (1) Both symptomatically and etiologically the disease closely resembles nephritis. Moreover, in not a few cases of post-scarlatinal nephritis, in which the urine was free from albumin, the necropsy showed well-developed kidney disease. This, however, is not true in every case and it is now generally admitted that a considerable number of children who die with every evidence of nephritis following scarlatina carry a good pair of kidneys with them to the grave. (2) It is absurd to suppose that anæmia can develop to a sufficient degree to cause dropsy in the case of healthy men who sometimes suddenly develop this symptom ofter a wetting. Furthermore in a considerable number of cases of dropsy there is no anemia. (3) Even supposing that all cases of dropsy could be explained by anemia, or nephritis, or cardiac lesion, we are very much in the dark as to the ultimate cause. No one has ever seen the damage done to the endothelial cells, nor has the hypothetical toxin as yet been separated. It seems reasonable that there is some as yet undiscovered ulterior cause which produces the three symptoms, nephritis, anemia and edema, the latter being coincident with, not consequent upon, the first two.

Disadvantages of Copper Sulphates in Diseases of the Eye.—In a recent article in the *Medical Record* Dr. Claiborne extols the use of copper sulphate in many chronic inflammatory conditions of the conjunctivæ, especially trachoma. C. Williams (*Med. Rec.*, Sept. 21, 1901) takes exception to the conclusions which were there reached and characterizes the use of that remedy as a relic of barbarism. He says that there is nothing which it can accomplish which can not be done with infinitely less pain and in a much shorter time, by other means. He cites numerous examples where prolonged use of copper has been unavailing, although always extremely painful and frequently causing corneal ulcers or even a serious iritis. He believes that trachoma is most successfully treated with weak solutions of silver nitrate together with frequent irrigations with bichloride solution in normal salt. No application to inflamed conjunctivæ causing pain of lasting duration should be countenanced. Expression is not absolutely essential, yet much hastens the cure of trachoma. The most difficult part in the cure of trachoma is the finishing and this can best be accomplished by a solution of tannic and boric acid in glycerin and water. When it is desired to stimulate the cornea to increase

tissue changes, alcohol may be added. No staining from silver solutions has been seen even when their use was kept up for a long time.

Use of Tuberculin.—In 1890 the world was surprised by the report from that eminent authority, Robert Koch, that he had obtained a specific cure for tuberculosis in the form of the so-called tuberculin. The universal thankfulness was soon dispelled by the opposition which was developed and lead by Virchow. Since then the use of tuberculin in the treatment of cases of tuberculosis has been very limited and its practical application in this country has been, in general, restricted to diagnostic purposes. G. A. HERON (*Phil. Med. Jour.*, Sept. 21, 1901) believes that much injustice has been done in condemning the general use of tuberculin and, after considerable experience and many successful results, expresses the opinion that it has fallen into disrepute (1) on account of its frequent use in unsuitable cases; (2) by its administration in too large doses: (3) by neglect of the rule that it should never be given until the patient's temperature has been normal for the previous twenty-four hours, at least; (4) by neglect of the rule that the dose should gradually be decreased instead of increased when its use is followed by a rise of temperature. It is never to be recommended in any case of severe involvement by consolidation or where there is any excavation. Its use in selected cases is still highly recommended and as an assistant in diagnosing early cases it is certainly invaluable.

Tuberculosis in Infancy.—Cases of tuberculosis during the first six months of life are very rare, but are common toward the end of the first and during the second year, according to D. DIEUDONNE (*Münch. med. Woch.*, Sept. 10. 1901). This may be easily explained by the fact that the children then begin to expose themselves to infected dust by crawling about the floor, that skin lesions such as herpes, impetigo and eczema are frequent and form a ready portal of entry, and that the nasal and oral secretions are abundant, incident to dentition, and form a ready means of retaining the germs. Small sterile sponges were rubbed over the hands of suitable cases and also allowed to imbibe their nasal secretion and cultures then made, with the result that 5 out of 88 showed the tubercle bacillus. The importance of guarding children, especially those of tuberculous parents, against such infection, is emphasized.

Heart in Caisson Disease.—A number of perfectly healthy caisson workers were examined by B. HORNUNG (*Münch. med. Woch*, Sept. 10, 1901) to see if the increased atmosphere caused any change in the size of the heart. Increased cardiac dulness in all directions was found in most, the greatest increase being toward the right. When the atmospheric pressure was increased suddenly, instead of gradually, the same facts were noted, but in a few cases the dilatation was still more marked. In all, normal heart limits were found after sixteen hours. The author thinks it possible that the labyrinthine symptoms of caisson disease are due to the circulatory changes and not to increased pressure on the labyrinth.

Membranous Dysmenorrhea. — Concerning membranous dysmenorrhea, D. KOLLMANN (*Münch. med. Woch.*, Sept. 10, 1901) sets up the following rules: (1) There is no connection with pregnancy and abortion and sterility is not necessarily the result, nor is there any relation to inflammation of the mucosa of the uterus; (2) the membranes are a manifestation of the necrosis caused by hemorrhage and exudation into the tissue; (3) the cause of the pain is not to be found in the tearing off of the membranes; (4) the anatomical picture does not correspond to any definite type and can vary with the same patient; (5) the condition is frequent and often overlooked.

Intestinal Disinfection.—For the estimation of the degree of bacterial activity going on in the intestines, three methods are available, namely, the quantitative determination of ether sulph-acids and indican, the bacteriological investigation of the feces and determining the toxicity of the feces by Bouchard's method. The first method has the disadvantage that many supposed antiseptics introduced into the gut are changed into simular bodies, thus making an investigation of their activity an impossibility; the second method gives results varying within too wide limits to be practicable, and the last is difficult, because the actual toxic products have not as yet been isolated. H. SINGER (*Therap. Monatshft.*, Sept., 1901) recapitulates the various so-called intestinal antiseptics that have been recommended, from calomel up to the many new drugs, and shows how none have fulfilled the expectations that were placed in them. Even high irrigations of the intestines are inefficient and open up the danger of intoxication from the antiseptics added to the water.

Determination of Blood.—To ascertain the presence of blood, especially in feces, C. STRZYZOWSKI (*Therap. Monatshft.*, Sept., 1901) recommends that one drop of 1:500 sodium iodide be added to the particle, and that, after the addition of concentrated acetic acid, the slide be boiled for from three to six seconds. There will result deeply-stained egg-shaped, biconvex crystals which can readily be recognized. Instead of the iodide, hydriodic acid may be used, and, with feces, it may be necessary to remove the fat with equal parts of chloroform and ether. If the above method gives a negative result, resort must be had to the spectroscope and the ozone reaction. The author has made various experiments to determine how high blood may be heated before the various reactions disappear. He has found that above 190° C. hemin crystals no longer form with the method above described, and that even at this temperature the crystals are often atypical, in the form of needles or balls. At 210 to 220° C. the spectroscopic and the chemical determination with tincture of guaiac and old oil of turpentine no longer are possible.

Mosquitoes and Their Properties.—An interesting article on mosquitoes as they occur around New Orleans has been written by H. A. Veazie (*New Orleans Med. and Surg. Jour.*, Sept., 1901). After a few general remarks on the general technic of catching the insect with short wide-mouthed test-tubes, keeping them for study in large bottles with sugar and water, killing them with chloroform, preserving the specimen from moths in wooden cigar-boxes, and examining them under the microscope in the ordinary dry cell, the author goes into a detailed anatomical description, pointing out especially the well-developed sharp epipharynx or stinging apparatus of the female and its more blunt counterpart in the male. The two most common genera found are the *Anopheles* and the *Culex*, and of both there are many subdivisions. The position which the different genera take while resting is usually distinctive, as the *Anopheles* usually rests with its body very nearly at right angles to the surface, while the body of the *Culex* and others is more parallel. The *Anopheles* also is quite awkward on alighting, whereas the *Culex* seems to have less trouble in coming to rest. All mosquitoes come from an egg which hatches and forms the larvæ; this changes into the pupa and from this the imago or mature form of the insect develops, the moult skin being used as a float until the wings and other parts have time to unfold, dry and adjust themselves to a new existence, so that water is an absolute necessity for their development. The most common breeding-places are the gutters, drainage-canals, water-closets and cisterns; very few, if any, come from our rivers and lakes on account of the wave, winds or depth of water and myriads of fish which feed upon them, among which minnows are especially prominent. In considering prevention and remedies, all efforts to get rid of mosquitoes should begin about April 1st. The gutters should be kept either dry or with running water, but never stagnant, for the female cannot well alight on running water to oviposit; the cisterns should be covered with fine galvanized iron wire gauze, which is better than oil, and the water-closets should be treated once a month with an ounce or two of petroleum. Where stagnation is unavoidable, coal oil should be freely poured on the surface.

A New Gynecological Speculum.—A self-retaining speculum, which renders emergency operations possible without the aid of assistants, is described by A. Garioni (*Centralblatt f. Gyn.*, 1901, No. 36). Its parts are all detachable, so that its aseptic properties are up to the highest standards. It most resembles Collin's speculum, but has shorter blades. The essential parts of this instrument are as follows: (1) Two short, medium wide blades, spreading in the transverse diameter of the vagina, with a wide flaring shoulder on each, which, when the instrument is introduced, lie on the vulva and buttock; (2) a horizontal crosspiece, fastened to the upper edge of each blade at the angle where the flaring shoulder turns outward, on the left blade by a pivoted separable hinge joint, on the right blade by a slot where a thumb screw works which opens the blades in parallel position; (3) a screw and thumb-nut attached to the left blade, which separate the tips of the blades in the usual manner in the vault of the vagina; (4) a pair of volcellum forceps, with scissor handles bent on the flat at right angles to the axis of the jaws, so that the handles are upon the buttock of the patient entirely out of the field of treatment; the upper jaw of the volcellum forceps is provided with a large number of pivots which serve to catch the instrument and to maintain the cervix uteri drawn toward the vulva, in degree varying with each case; (5) a retaining catch to receive these pivots on the volcellum forceps fastened to the horizontal crosspiece; (6) a douche nozzle which may be attached to the volcellum. The application of the instrument is as follows: Introduction of the blades up to their shoulders, parallel separation of them until they are at or near the tuberosities of the ischii, angular separation of their tips in the vault of the vagina, seizure and forward traction of the cervix uteri with volcellum, adjustment of the same on the catch, attachment of the douche nozzle if desired, for operating or treating under continuous current. Hence without ever troubling a second party to hold instruments, any ordinary gynecological procedure can be done by one person and yet all the necessary and usual advantages of an assistant are present.

Congenital Macrodactylia.—According to some writers congenital macrodactylia is a purely teratological condition. In the opinion of Boinet (*La Presse Méd.*, Sept. 4, 1901) it may with at least equal propriety be regarded as pathological, inasmuch as it is characterized by a progressive growth, ordinarily more rapid than that of the remaining normal fingers, and exceptionally rapid during adolescence. Macrodactylia is rarely hereditary. It is more frequent in males than in females. In many instances there is no accompanying anomaly of the skin; secretion and sensation remain normal. Radiography has shown in some instances bony hypertrophy without osteophytes; in other cases osteophytes were present, with rarefying osteitis. The pathogenesis of macrodactylia has not yet been clearly elucidated.

Gold Wire in Herniotomy.—One hundred and twenty consecutive primary-union herniotomies, in which buried gold-wire was the suture used, are reported by G. de Francisco (*Centralbl. f. Chir.*, 1901, 36) for J. Tansim. In addition he has devised and for years satisfactorily used self-retaining and self-acting retractors for the muscles and an elevator or hook for the cord. A long-handled spatula serves to press the deep structures out of the way during the sewing. The plan of the instruments is briefly considerable weight for their retention and traction and a generous depth for their hold on the tissue. They obviate handling the wound, preserve asepsis and tend to promote primary union.

Radical Cure of Cystocele by Temporary Suspension of Bladder.—This operation was practised on a woman, aged sixty-three years, who had a cystocele the size of a large orange protruding from the vulva. This condition had existed for six years; during most of this time relief could be obtained only by having the patient remain in a recumbent position. In performing the operation, dissection was begun anterior to the cervix uteri, as for hysterectomy. The peritoneum was stripped from the bladder with the finger and blunt instruments. The wound was packed with gauze. The abdomen was then opened in the lunea alba for a distance of five inches immediately above the symphisis pubis. The bladder, distended with sterile water, was grasped with dull forceps and drawn forward. Sutures were passed through the muscular coat of the bladder on either side of median line for a distance of 1½ inches, three-quarters of an inch from the median line and parallel; the ends were held outside the wound. The outer coat was next denuded in median line between the sutures, when by means of a semi-curved ligature carrier the free ends were carried through the abdominal wall, their exit made to correspond with the position of exit from the bladder, and the ends secured by locked forceps dropped to sides of abdomen. The wound was closed by subcutaneous continued suture. The free ends of the suspension sutures were drawn taut and fastened over rolled bolsters of sterile gauze. The patient was then placed in Sim's position and the gauze packing from the vaginal wound were removed. The abraded surfaces of peritoneum were approximated by catgut, and colporrhaphy followed. A narrow opening was left for drainage of the space in front of the bladder. On the thirtieth day the silkworm gut ligatures were loosened and withdrawn and the patient was discharged the fortieth day. J. B. TAULBEE (*Amer. Gyn. and Obstet. Jour.*, Sept., 1901) states that the most difficult features of the operation are in properly divesting the bladder of its peritoneal covering and re-approximating the same, and properly inserting ligatures and denuding the area which is to adhere to the pelvic or abdominal fascia. Priority for the operation is claimed.

The Blood in Surgical Diagnosis.—The results of extended collaboration in this field and the following summary are given by R. C. CABOT, J. B. BLAKE and J. C. HUBBARD (*Annals of Surgery*, Sept., 1901). (1) At the end of complete anesthesia there is occasionally a slight, rarely a marked leucocytosis; (2) at the end of the operation there is a considerable leucocytosis in one-half the cases, and almost always a distinct increase over the number found at the end of complete anesthesia; (3) the blood at the end of operations for malignant growths is not necessarily much impoverished and in favorable cases usually recuperates rapidly; (4) hourly variations in the white-cell count may occur in conditions other than the preperforative stage of typhoid fever and may be present in health too; (6) very violent physical exertion produces conditions in the blood which pass the normal and may be identical with that found in disease. This last conclusion is derived from a study of the blood of the runners at Marathon in the recent Greek games by R. C. Larrabee.

Plantar Reflex and Babinski's Sign.—Babinski was the first to record the pathological alteration in the plantar reflex, whereby in certain cases mild irritation of the sole of the foot produces not plantar flexion, but dorsal flexion of the toes, and especially of the great toe. The cause assigned by Babinski for this alteration of the plantar reflex is in almost every case some lesion of the pyramidal tract; recognized exceptions are epilepsy, strychnine-poisoning and other diseases producing exaltation of reflexes, and normal infancy. H. SCHNEIDER (*Berl. klin. Woch.*, Sept. 16, 1901) took advantage of the opportunity to record the Babinski phenomenon in nearly a hundred cases of disease of the central nervous system. He states that this phenomenon may be caused in two ways; first, by interruption of the pyramidal tract or disease of the motor cortical area, thus destroying the normal plantar flexion, which is a cortical reflex; second, by diseases which either increase the irritability of the motor cells of the spinal cord, or diminish the irritability of the cerebral cortex. Briefly stated, Babinski's phenomenon is the substitution of a spinal for a cortical reflex. It is due to the relative suppression of the cortical reflex, a phenomenon which may or may not involve distinction of cortical centers, and which may or may not point to a lesion of the pyramidal tract. In conditions producing general heightening of spinal reflexes a diagnosis of pyramidal lesion cannot be based on Babinski's sign.

Tubal Gestation Sac Anterior to the Uterus.—A surgical curiosity which is doubly interesting because fully diagnosed before the operation is reported by A. H. G. DORAN (*Lancet*, Sept. 14, 1901). It consisted in a tubal gestation in which the sac lay anterior to a retroverted and flexed uterus and had adherent to it an inflamed appendix. This is certainly a rare combination, but his report serves to remind us that diagnosis must always have reference to complicated conditions.

Comparative Virulence of the Tubercle Bacillus from Human and Bovine Sources.—The relation between the various types of the tubercle bacillus found in man and in the lower animals has been the subject of much discussion for several years past. A careful study of the comparative virulence of the organism from human and bovine sources has been made by M. P. RAVENEL (*Univ. of Penn. Med. Bull.*, Sept., 1901). He finds that cultures from these two sources differ markedly in pathogenic power, the bovine bacillus being more active than the human for all species of experimental animals with the possible exception of swine, which are highly susceptible to both. Tuberculous material from cattle and from man corresponds closely in comparative pathogenic power to pure cultures of tubercle bacillus

from the two sources. The author regards it as a fair assumption from the evidence at hand that the bovine tubercle bacillus has a high degree of pathogenic power for man also, which is especially manifest in the early years of life.

Fracture of the Skull.—This subject is discussed by W. LATHROP (*Annals of Surgery*, Sept., 1901) from the standpoint of the advantages of early operation, even in doubtful cases. Such beneficent and often life-saving procedures are possible only to modern asepsis and antisepsis. Every comatose case brought into a hospital may be suffering from apoplexy, concussion or contusion of the brain and uremia. ' The last condition is ruled out at once if urine is drawn by catheter and found to be negative. The other three are differentiated only by their degree and subsequent course. In doubtful cases where there is history of injury to the head, with persisting or increasing symptoms, it is always advisable to operate at the seat of the traumatism. When the inner table is much comminuted, the dura usually suffers and the brain beneath it. Sometimes, however, the dura shows rare resisting powers, although the brain beneath it may be badly torn and bleeding. In such cases an unusual elasticity or tension of the dura appears as soon as the outer surface of it and the wound area are cleaned up. The very great weight of certain symptoms can not be overstated and consequently the surgeon should always be alert to detect their primary presence and their later development and progress. In general such are the signs of the local brain injury. The prognosis is good when the operation is done early and the fracture or hemorrhage has in general not damaged more than the surface of the brain. Subnormal temperature followed by a rapid rise, persistent coma, paralysis, deep and irregular breathing, pupillary dilatation are nearly always of fatal significance. A temperature at or above normal, rising one or two degrees with regular respiration and full and slightly accelerated pulse are usually favorable features.

The Use of Raw Milk in Enteritis and Athrepsia.—In the process of sterilization of milk, casein loses the property of coagulation, nuclein and lecithin become insoluble, lactose is completely changed and the fat collects in droplets on the surface. While many authors believe that the digestibility of milk so altered is not diminished, this supposition is not borne out by the clinical experience of Jensen, Von Starck, Heubner and others. S. MONRAD (*La Presse Méd.*, Sept. 4, 1901), after treating five infants unsuccessfully with sterilized milk, was led to substitute raw milk. The result was rapid and excellent; vomiting ceased, the bowels became regular, the patients regained weight which they had previously lost. The author, however, does not recommend the unqualified suppression of sterilized milk, but advises the substitution of raw milk in cases where infants prove intolerant of the sterilized variety and suffer from intestinal catarrh and athrepsia.

Blood Changes After Antityphoid Inoculation.—These changes are summarized and their bearing explained upon the all-important subject of serumtherapy in general by A. E. WRIGHT (*Lancet*, Sept. 14, 1901). (1) When the quantum of antityphoid vaccine employed is so great that it produces the well-known and intense systemic symptoms, the inoculation will be followed by a period of decreased bactericidal properties in the blood and consequently by an increased susceptibility to typhoid infection over the same period. Upon this negative phrase there may be expected to succeed after a lapse of about three weeks a positive phase of increased bactericidal power and augmented resistance to typhoid infection. (2) When the quantum of antityphoid serum produces a series of still more intense constitutional reaction, it may be succeeded by a negative condition of the blood, which may persist indefinitely or never be followed by a positive phase. This same phenomenon has been observed in patients who go through a severe degree of typhoid fever. (3) When the quantum of antityphoid serum employed is such that no severe degree of systemic effect is produced, the injection may be expected to produce a positive bactericidal phase at once, with no preliminary negative phase, and sometimes as promptly as within twenty-four hours. From the vastly important premises he deduces these conclusions: (1) Inoculations producing the highest degree of general effect are at all times not advisable and in the presence of a typhoid epidemic would be a certain source of danger; (2) inoculations producing a marked but not an extreme reaction are in the same way not advised in the presence of an epidemic. When, however, several weeks are to elapse before known exposure to the disease shall occur or when a second inoculation can not be carried out, then they should be always resorted to. (3) Inoculations which do not produce any or only a slight systemic reaction are those whose employment is most appropriate at all times, when their repetition is possible, and particularly during the rage of a typhoid visitation. These three principles are in accord with the observations of Ehrlich in the action of tetanus antitoxin in goats and of Haffkine in the antiplague inoculations. It is probable that they underlie the correct method of all immunization with serums and antitoxins. (4) When, after a recovery from enteric fever, a patient's blood is found too deficient in bactericidal power, it is advisable, especially in the presence of a continuing typhoid epidemic, to raise the standard of blood-resistance by appropriate inoculations. (5) On the other hand with high or very great blood-resistance after a recovery it is not necessary to inoculate, with the hope of raising a bactericidal power already up to the standard. (6) The efficacy of any antityphoid vaccine, as the result of age or method of storing and preparation, is a question which can be decided only by an inoculation with it, followed by an observation of the actual bactericidal power present in the blood.

Cause of Osteomalacia.—Since this rare disease occurs more frequently in women during pregnancy and especiallly in the poorer and ill-fed classes, J. G. DRENNAN (*N. Y. Med. Jour.*, Sept. 28, 1901) suggests that perhaps this disease of decalcification is due to the abstraction of calcium salts from the mother's blood by the fetus. It is not probable that the fetus abstracts nourishment from the tissues of the mother, but indirectly from the pabulum which she requires to rebuild her own tissues. Osteomalacia then would be the result of a poverty of calcium salts in the blood of the mother, by which her osseous system is starved by the fetus assimilating all the available salts.

Pernicious Anemia in Infants.—In citing one of these rare cases of a child, aged nine months, T. M. ROTCH and M. LADD (*Archives of Pediatrics*, Sept., 1901) emphasize the following points: The insidious onset with moderate and paroxysmal attacks of indigestion, the extreme pallor, great loss of strength, slightly elevated temperature for months and absence of glandular or splenic enlargement or of any demonstrable cause for a secondary anemia. The blood showed the typical characteristics of pernicious anemia, with not much leucocytosis. Under treatment with oxygen, the saccharated carbonate of iron, ferration, etc., the blood and general symptoms improved until the infant appeared in all respects sound and healthy. This child has been put on artificial food at four and a half months. In making a diagnosis of pernicious anemia in infants, signs which are almost pathognomonic in adults lose significance, on account of the greater instability of the infant's blood-making function. Megaloblasts, normablasts, macrocytes and poikilocytes may occur in grave anemias other than "pernicious"; still, these elements are needed for diagnosis. In the treatment, feeding is of first importance, and arsenic if tolerated, and iron in the form of ferration or a similar preparation may be of benefit. In this case the oxygen inhalations seemed to give prompt improvement.

Hereditary Chorea.—Three cases, each showing well the hereditary character of the disease, the insidious onset, and the late mental impairment, are reported by C. E. RIGGS (*Jour. of Nervous and Mental Disease*, Sept., 1901). Mental stress or shock preceded the onset in two of the victims, who were women. One of these showed marked incoördination of gait if at all fatigued. Both were very untidy in dress, were mentally sluggish, and showed Romberg's symptom and exaggerated deep reflexes, speech, respiration, and arm-movements were jerky in all the cases.

THERAPEUTIC HINTS.

Overextension in Pott's Disease.—Continuous, gradually-increased overextension of the spine is, according to ROYAL WHITMAN (*Pediatrics*, Sept. 1, 1901), a most effective treatment, and at the same time one quite at the command of the general practitioner. The vertebral bodies do not grow again, but the pressure and friction which stimulate the destructive process is removed. The method is especially applicable to children under three years, as these can be kept in the recumbent position. The apparatus is a rectangular frame of gas-pipe, rather longer and narrower than the patient, and covered with tightly-drawn cotton sheeting except for a six-inch interval at the center. Thick pads of felt are sewn so as to support the body at each side of the kyphotic area. As soon as the patient has become accustomed to the restraint, the bars are from time to time bent upward beneath the kyphosis with the aim of separating the diseased vertebral bodies and obliterating the normal curves of the spine. The child's clothes are made to fit over all, and the arms and legs need no restraint. Once a day the child is removed, is carefully turned face downward upon a large pillow, and the back inspected and powdered.

For Asthma.—

℞ Decotum senegæ .....120.0 (℥iv)
Tinct. lobeliæ
Tinct. opii camph. aa..... 30.0 (℥i)
Potass. iodid ..... 10.0 (℥iiss)
—*Le Progrès Médical.*

For Chilblains.—

℞ Liq. plumbi subacet..... 8.0 (℥ij)
Bism. subnit..... 6.0 (℥iss)
Vaselin
Lanolin .....aa 12.0 (℥iij)
—*Le Progrès Médical.*

Cooked or Raw Meat in Tuberculosis.—Following the diverse statements regarding the relative merits of raw or cooked meat, CORNIL and CHANTMESSE (*Gazette Médicale de Paris*, Aug. 31, 1901) inoculated numerous dogs with the tubercle bacillus. Then the dogs were separated into pairs, the two of a given pair being practically of equal weight and age. One of the animals of the pair was allowed to eat cooked meat to satiety, and the other given the same weight of raw meat. It was noticed that the meat lost about 20 per cent. of its weight in cooking. The dogs fed on cooked meat succumbed in from four weeks to five months, and the autopsy showed generalized tuberculous lesions with caseation, and very marked fatty degeneration of the liver. When a dog fed on cooked meat died, his companion fed on raw meat was killed, and in every case the latter animal was much better nourished, the fatty degeneration of the liver was less, and the tubercles were less numerous, of smaller size, and showed less caseation. One animal fed on raw meat preserved its vigor and healthful appearance at the end of a year, it having been spared though its companion fed on cooked meat had succumbed at five months. These experiments go to show that superalimentation is not the essential, but that raw meat possesses remedial qualities not found in cooked meat.

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LONGEVITY AND INSURANCE.

In spite of the brilliant analysis of Schopenhauer who so clearly demonstrated the inability of the ordinary man to distinguish pleasure from pain, there still exist occasional deluded mortals who cling with pathetic obstinacy to the ancient superstition that life is worth living. Such may find both interest and gratification in a brief review of the evidences of increasing human longevity which, in civilized communities at least, have formed one of the notable characteristics of the progress of the last century.

Of a general nature is the fact that famines and epidemics, which in times past sometimes decimated the populations of enormous areas, have steadily become more local and transient, so that now the threat of their recurrence excites only mild apprehension on the part of the public. Wars also, though unhappily still too common, are certainly less numerous and protracted than of yore, while the inevitable loss of life involved in their prosecution is being rapidly reduced to a minimum by the modern policy of screening noncombatants, so far as practicable, from the direct effects of military operations. Again, the annual slaughter of the innocents which, particularly in cities, attends the advent of every summer has been appreciably diminished through the media of intelligent legislation and practical charities. Admitting the significance and mutually corroborative nature of these circumstances, it is nevertheless evident that they fail to supply the requisite data for a numerical estimate of the prolongation of life.

Somewhat more definite results may be derived from a study of the reports of such statistical bureaus as keep reasonably accurate records. Even these figures, however, can be accepted only as more or less close approximations to the truth. The usual method of calculating the annual death-rate for a locality is easy of application and not without value, but it is at best a rough and ready device from the determinations of which deductions should be made with caution. The age constitutions of the populations of various places differ so considerably that in the comparison of two cities, such as Chicago and Vienna, for example, the story told by the conventional death-rates might easily be the reverse of true. Nevertheless, when in any particular locality, the population of which has not undergone abnormal fluctuations, the death-rate has manifested a declining tendency for a term of years, it is safe to assert that the average duration of life is increasing. These conditions are met in most of the cities of the civilized world, and it is fair to assume that in the country districts there has been a similar, though perhaps less decided, improvement.

The most important question concerning increased longevity, its distribution, remains to be considered. Is it largely confined to the extremes of life, especially the earlier, thus constituting a detriment rather than a benefit to society, or does it apply also to the productive ages? From general death-rates no answer is forthcoming. Although census statistics might be expected to solve this problem, they are unfortunately vitiated to an unknown extent by the great movements of immigration and emigration. There remains the graded mortality-table such as is used by actuaries in calculating premium-rates and which exhibits for the period to which it applies the death-rate at each age. It is obvious that two tables covering similar classes of people at different periods would show very accurately the distribution of the increased longevity already demonstrated. Two such tables now exist, thanks to the combined efforts of the British life companies, which long ago formulated their ex-

perience prior to 1863 and have recently completed a similar work for the thirty subsequent years. As was unavoidable in virtue of their origin, both tables ignore all ages below ten, at which they assume 100,000 males to be alive. Ten years later the survivors by the new table are 230 in excess of those by the old; after the lapse of twenty years, the excess is 2,077; after thirty, 3,183; after forty, 3,459; after fifty, 3,207; after sixty, 2,491; after seventy, 1,600. From these figures it is obvious that, in Great Britain at least, the prolongation of life has been characteristic of all ages except perhaps the very highest and the maximum increases chiefly affect the periods of greatest productivity. The consequent gain to society needs no demonstration. Although the tables just compared are compiled from the records of insured lives only, there is no reason to doubt that the same general causes that have so favorably affected them have been similarly operative on the rest of the community.

To the uninitiated it might seem probable that the adoption of the new table would imply cheaper insurance, but, unfortunately, such a belief would be a delusion. The cost of insurance depends on the mortality experience and business management of the company issuing the policy. Although the net premium is based on the standard table, it is usually heavily loaded for expense and various contingencies. If the company has a low death-rate and makes fortunate investments, it rapidly accumulates a surplus which may be distributed in the form of dividends to the policy holders, thus reducing the cost of their insurance. On the other hand, it may be dissipated in extravagance. In either case, it makes no difference to the insured what mortality-table is preferred by the actuaries. So far as one can judge at the present time, the hope of cheaper insurance through increased longevity is, to quote the words used by the late Senator Ingalls in another connection, merely an iridescent dream.

ENVIRONMENT AND INTESTINAL DISTURBANCE.

ONE of the prominent features of ordinary practice at this season is the marked tendency to the occurrence of intestinal disturbance, partly as the result of unexpected variations in the weather, partly as the result of modifications of environment incident to changes of residence after the summer.

We have learned to appreciate in recent years that intestinal digestion is much more important than gastric digestion. Complete removal of the stomach in recent surgical experience has not been followed by any serious interference with the general process of nutrition. The functional suppression of the stomach by gastro-enterostomy has been practised for several years, and not only with temporary, but permanent improvement of the health of the individual. Specialists in gastric disease assert that in not a few patients a condition of gastric anadenia, atrophy of the secretory glands of the stomach and consequent obliteration of the function of gastric digestion develop without necessarily causing any permanent impairment of the power to prepare and absorb sufficient food to support the system.

We are thus brought face to face with the fact that digestion is mainly an intestinal function. The active mucous membrane of the intestine is spread over a tube twenty-eight feet in length and is subject to many external and internal influences. One of the most important of these is adaptability to variations of temperature and of intestinal contents. This adaptability differs in degree in different persons. The intestine of each individual constantly contains a large number of micro-organisms to whose presence it has become tolerant. This microbic flora of the intestine varies very much under the varying conditions of human life. Micro-organisms that will prove not only harmless, but even beneficial for some because of certain fermentative processes adjuvant to digestion that they set up, will in others work harm by exciting irritative conditions. The intestinal flora depends not only on the actual bacteria introduced into the intestinal tract, but also upon the conditions that are maintained in it. Temperature and the form of nutritive medium are the two conditions that in the bacteriological laboratory are known most to influence microbic growth.

Slight variations of temperature may prove very important in their effects upon the multiplication of bacteria. A difference of a few degrees suffices to prevent the growth of such ordinarily virulent and active bacteria as the bacillus of anthrax or the gonococcus. Internal body temperature and notably that in the intestines is dependent on the blood-supply. This is particularly liable to variations, because the exigencies of digestion require them. Under ordinary conditions only the usual flora of the digestive tract flourish. If the surface of the body should become much cooler than normal the cutaneous capillaries, capable under ordinary condi-

tions of containing about one-fourth of the blood in the body, became contracted. The blood usually at the surface is forced to the interior of the body and finds its readiest refuge in the blood-vessels of the intestine which are easily distensible. The presence of so much blood leads to passive congestion and consequent sluggishness of the circulation. The first result of this is a lowering of the temperature of the intestines. This disturbs the equilibrium of bacterial life in the intestines.

It is well known that the growth of certain micro-organisms prevents the growth of others. The nitrifying bacteria that multiply on the surface of filter beds are the best example of this. By their presence they prevent the multiplication of pathogenic germs. When the ordinary vital conditions of the normal microbic flora of the intestines are disturbed, micro-organisms to whose irritative properties the intestines are not accustomed find a favorable opportunity to grow. Hence the intestinal disturbances that occur so frequently in variable temperatures. This is the scientific significance of the popular term "cold in the bowels."

As the disturbance of temperature conditions upsets intestinal microbic equilibrium, so also does serious interference with ordinary food conditions. Marked change in the diet, the consumption of unusual articles of food, the drinking of unaccustomed water, introduce new organisms and disturb the relations of the old to one another and to the vital resistance of the intestinal mucous cells. Practically this pathological tendency is best illustrated by what happens almost invariably in camps and for most people during the first few days at a watering place. Diarrheic conditions are almost the rule under these circumstances. Custom has established a tolerance of conditions that a change of environment makes ineffective. The treatment of the resultant intestinal disturbance must be directed to the establishment of the original conditions. The indication is not for intestinal antisepsis, at best a hopeless task, but the restoration of the previous microbic equilibrium. For this the removal of irritant material and the limitation of food, so as to cut off the supply of nutrient media for undesirable growths, are the desiderata. The prophylaxis of the annoying intestinal disturbances involves the exercise of judicious care in the selection of bland food during the first days after any alteration of environment, whether that be due to change of habitation or of temperature.

PROFESSOR VIRCHOW'S EIGHTIETH BIRTHDAY.

To the roll of famous octogenarian scientists, such as Alonzo Clark, Valentine Mott, Herbert Spencer, Lord Lister, Kölliker and Ernst Haeckel, we may add on the day of October 13th, the name of Rudolph Virchow, the father of pathology and the exponent of modern vitalism.

All scientific Europe is preparing to devote Saturday, October 12th, to celebrations and festivities in honor of the venerable but by no means antiquated professor; and so great is the enthusiasm that it has spread to the sons of science in America.

Therefore, in obedience to a spontaneous feeling of sentiment and reverence, a number of physicians have proposed to give a dinner in New York, simultaneously with their trans-Atlantic brothers, to honor the great old man.

The invitations are extended to the members of the Academy of Medicine, and Dr. Osler will be master of ceremonies; the dinner will therefore be a delightful occasion, and whether Professor Virchow be sensible or not of the kindly glow of feeling that will warm the hearts of the post-prandial speakers in his honor, the representative men in medicine who will dine together next Saturday evening, will at least be conscious of what they owe to this wonderful eighty-year-old scientist.

ECHOES AND NEWS.

NEW YORK.

St. Luke's Hospital Endowments. — St. Luke's Hospital received last week a bequest of $6,000 under the will of Mrs. Harriet B. Ranney, widow of the late Dr. Moses H. Ranney. This bequest is to be devoted to the maintenance of a bed to be known as the Dr. Moses H. Ranney Bed. An additional sum of $3,000 is to be devoted to the endowment of a bed in the same hospital to be known as the Willard M. and Julius H. Ranney Bed, in memory of her deceased sons.

New Building for St. Luke's.—The Board of Directors of St. Luke's Hospital recently held a meeting in the hospital building, on Morningside Heights, with the President, George M. Miller, in the chair. A matter of importance was the consideration by the Board of the construction of a pavilion on the northwest corner of One Hundred and Thirteenth Street and Morningside Avenue, to be connected with and form a part of the hospital, but to be devoted exclusively to private patients. Plans and specifications for the new building have been ordered. It was the opin-

ion of the directors that there is a demand for such a building that would justify the expense of building and maintaining it.

Consumptives Must Leave St. Luke's.—The Board of Directors of St. Luke's Hospital recently adopted the report of a special committee recommending the cancellation of a contract now existing between St. Luke's Hospital and the House of Rest for Consumptives. The latter is a corporation which some years ago transferred to the hospital its resources with the understanding that the hospital would thereafter care for consumptive patients.

New York Academy of Medicine.—At the opening meeting of the Academy on October 3d, Dr. A. Jacobi read an interesting historical paper on "Pediatrics in the United States before 1800." His sketches of the men who contributed to our knowledge of the diseases of children in this country were highly interesting.—Dr. Jacobi's paper constituted the Wesley M. Carpenter Lecture for 1901 and was a worthy follower of those that have preceded in this memorable series.—On Wednesday, October 9th, the Section on Otology will meet. Dr. Wendell C. Phillips will read a paper on "Symptoms Pointing to the Necessity for Operative Interference in Mastoid Suppuration," and Dr. Edwin W. Pyle will contribute a paper on "A Conservative Element in Acute Mastoid Surgery."—On Thursday, October 10th, the Section on Pediatrics will meet and a symposium on "Blood Diseases in Childhood" will be held. Dr. F. C. Wood will speak of the "Modern Technic of Blood Examinations"; Dr. G. M. Light, on the "Peculiarities of the Blood in Infancy and Childhood"; Dr. L. E. La Fétra will report on a "Case of Severe Secondary Anemia in a Child of Two Years"; Dr. C. Hermann will report on a "Case of So-called Von Jacksch Anemia"; Dr. H. Herman will report on a "Case of Leucemia of the Spleno-myelogenous Type in a Child of Eight Years." Discussion will be offered by Drs. J. Ewing, T. C. Janeway and others.

Typhoid in New York.—Cases of typhoid fever have reached high figures in New York City. The last weekly report of the Board of Health shows a decided increase in the number of new cases. One hospital has been taxed beyond its capacity, and the resources of others are under a strain to accommodate patients of this class. Yearly the number of typhoid cases increases with the coming of autumn. This year the increment is larger than the ordinary, and the accommodations at all the large hospitals are being severely taxed.

Pathological Institute Work.—Though the State Lunacy Commission, of which Dr. Frederick Peterson is the President, has selected a candidate for director for the Pathological Institute of the New York State Hospitals, his election to that position is conditional upon his passing the rigid examination mapped out under the State civil-service rules, and his name the Commission does not feel at liberty to make known for the present. A date for the examination has not yet been set, it is understood, and will not be in several weeks. Though the Pathological Institute has been without a director since Dr. Ira Van Gieson retired last spring, the routine work of the Institute has been kept up during the summer by the staff of five assistants who served under Dr. Van Gieson. When the last Legislature cut down its appropriation, the Institute curtailed expenses by giving up some of its rooms in an uptown building, and stored part of its laboratory equipment at the Manhattan State Hospital on Ward's Island, where, under the new régime, quarters will be provided for the laboratory work of the Institute.

Vaccination Law to be Urged.—The committee appointed by the County Medical Association which has been at work for the past three months inquiring into the expediency of securing a law by the next State Legislature making vaccination compulsory is almost ready to make its report. What conclusions have been reached will not be made public, however, until October 21. It is said upon good authority that, while the committee will recommend legislative action to assist in the vaccination of all persons residing within the boundaries, the word "compulsory" will be avoided as much as is possible, in order that the aggressiveness of the ignorant masses and foreign population be not aroused.

PHILADELPHIA.

Smallpox Situation More Satisfactory.—For the week ending September 28th there were 29 new cases and 3 deaths from smallpox as compared with 38 cases and 4 deaths the previous week. The Mayor has directed that the proposed annex to the Municipal Hospital, to which citizens so strongly protested, shall not be built. The State Medical Society, during its meeting here last week, passed resolutions reaffirming their belief in the efficacy of vaccination and recommending it to the public. The compulsory vaccination of school-children was also endorsed. The Committee on Hygiene of the Board of Education has ordered that teachers and other employees file within two weeks certificates showing that they have been vaccinated or have had smallpox.

Homeopathic State Medical Society.—This Society held its annual meeting in Pittsburg last week. A matter of surprise was the fact that many letters had been sent to Governor Stone by members of the profession, asking that he withhold his signature from the appropriation for the proposed State Homeopathic Insane Asylum. Dr. R. R. Mercer of Chester was elected president. The next meeting of the Society will be held in Philadelphia.

Good Results from Sanatorium.—Encouraging reports come from the consumptives at White Haven. They are now quartered in an old barn, which allows free access of air and,

fitted up as it is, makes a much more appropriate home than its name would indicate. Seventeen persons are now in the sanatorium and the improvement in their condition is very gratifying. Work on the hospital to accommodate 200 patients will soon be begun.

Philadelphia Streets.—The streets of this city are at present in an exceedingly bad condition, a local paper characterizing Philadelphia "a barricaded, disorderly city, with streetways agape and dirt everywhere." The conservative *Ledger* says: "Unclean thoroughfares have not been uncommon in the past, particularly under the present administration, but it is difficult to recall a time when the accumulation of rubbish and filth is as offensively evident as at this time, or when the city officials were as calmly indifferent in the matter of disciplining those who are responsible. One cause of the disorder is, of course, due to the tearing up of the streets by the Keystone Telephone Company to lay its conduits, and to digging the trenches by the city for the new water-mains for the better protection of buildings against fire. These works, proper in themselves, are conducted with a total disregard to the comfort or convenience of the citizens or the cleanliness of the streets." That the health of the city will suffer from this condition seems almost assured.

Notes on the State Medical Society.—President Davis made an admirable presiding officer, especially in the matter of keeping the sessions up to schedule time. Ten minutes were allowed for papers, too short a time, by the Constitution. The last ten were cut to five minutes each in order to finish on time. The special lantern demonstration was a feature of the meeting. "The Life History of the Ovary," by Dr. Clark, was a demonstration of his theory of the mechanical basis of the menopause. The ovules are pushed from the center to the periphery of the organ by a free central blood-supply. The scars left form fibrous tissue which extending outward toward the surface prevent the passage of the ovules.—The membership of the Society is 3,460, an increase of 110 during the past year. Efforts to increase it still further are to be made by a committee who will visit backward counties for the purpose of arousing greater interest in the local societies. Resolutions were passed endorsing the course of the attendants on President McKinley; reaffirming the belief of the Society in the efficiency of vaccination; and denouncing the abuse of dispensaries by people able to pay for medical attendance. The following was suggested as a remedy for the latter condition: "*Resolved*, That this joint committee recommends to our respective associations that the Legislature pass an act requiring that all persons seeking aid at dispensaries and other charitable institutions record their names and addresses, or, when unable to write, make their marks, as is customary in legal documents, in a book kept for the purpose, which shall be open to inspection by proper persons, and, if possible, inflict a penalty upon those who fraudulently receive aid."

CHICAGO.

Commencement Exercises of the Illinois Medical College.—These were held September 25th. Fourteen students received the degree of Doctor of Medicine, and one the degree of Doctor of Pharmacy.

Scarlet Fever in Evanston.—It is said that scarlet fever is quite prevalent in this city. There are at present thirty-two cases, and the health authorities are energetically fighting the disease. School attendance has been seriously interfered with, as many parents fear the disease. Milk is said to be the probable cause of the epidemic.

Appointment of Dr. Farrell.—Dr. P. J. H. Farrell has been commissioned major and surgeon and assigned to the Sixth Infantry of the Illinois National Guard.

Women Arraigned by the State Board of Health.—Seven women physicians have been arraigned by the Illinois State Board of Health for practising medicine without licenses and for advertising themselves as physicians. It is said that of these only one name appears on the physicians' register.

GENERAL.

Gift to a Physician.—Dr. A. S. Zabriskie, one of the oldest physicians of Suffern, N. Y., recently, celebrated his eighty-second birthday at his home there. He came to Suffern forty-five years ago. He was presented with a purse of $500 by his friends.

Egyptian Congress of Medicine.—The preliminary program of this Congress, to be held December 10-14, 1902, under the patronage of the Khedive, has just been received. The subjects of special interest are those diseases of distinct importance to Egyptians, notably anchylostomiasis, bilharzia, yellow fever and abscess of the liver.

Burrage Hospital in Boston.—The plans for this new hospital for the sick children of Boston have just been announced. The hospital is to be situated on Bumkin Island, in Boston Harbor, and is given for the benefit in the summer time of the poor sick children of Boston. It is intended that it shall have special reference to children who are crippled and unable to keep themselves. It is not probable that the use of the hospital will be limited to this class alone.

Zionist Father Adjudged Guilty of Manslaughter.—A member of the Christian Catholic Church in Zion was last week adjudged guilty of manslaughter by Justice Walker of Vancouver, B. C., on the charge of causing the death of his two children by failing to pro-

vide them with medical attendance, which the Judge held is one of the necessaries of life. Such necessaries the criminal code provides a father shall provide for his children.

Paris Hospital for Americans.—The project of erecting an American hospital in a suburb of Paris like the efficient English institutions of the kind was about to be abandoned when the Duchess of Marlborough made a gift of $10,000, and it seems more than likely that such a desirable institution will be founded in the near future.

Plague Reports.—The Brazilian Government has declared the city of Rio Janeiro infected with the bubonic plague. The port of the city is under suspicion. At least fifteen cases of plague have been found in Naples and vessels from that port are quarantined by the United States authorities.

Virchow Research Fund.—According to *Science*, the city of Berlin will contribute $25,000 toward the Virchow foundation for research, now being enlarged in honor of Professor Virchow's eightieth birthday.

XIIIme Congrès International de Médecine.—The General Secretary desires to inform the members of the XIIIth International Congress of Medicine that the printing and forwarding of the general volume and of the seventeen records of the Sections are now entirely finished. Any member who, by mistake, should not have received the volumes to which he is entitled is hereby requested to address the Editors of the Congress, Masson & Co., 120 Boulevard Saint Germain, Paris. After December 31, 1901, any reclamation will not be acknowledged.

Sir James Crichton Browne on the President's Case.—"I am confident I am expressing the unanimous opinion of the British medical profession," said Sir James Crichton Browne at the banquet of the Bowyers' Company in London last week, referring to a touching allusion made by the Chairman, Mr. Morgan, M.P., to the death of Mr. McKinley, "when I declare that the surgeons who attended the late President of the United States showed the utmost skill at every stage and did everything possible to alleviate the sufferings and prolong the life of their illustrious patient. American and British yachts may compete for victory, but between American and British surgeons there is no rivalry—only mutual respect and good will."

Nicholas Senn Prize Medal.—The Committee on the Senn Medal beg leave to call attention to the following conditions governing the competition for this medal for 1902:

1. A gold medal of suitable design is to be conferred upon the member of the American Medical Association who shall present the best essay upon some surgical subject.

2. This medal will be known as the Nicholas Senn Prize Medal.

3. The award will be made under the following conditions: (*a*) The name of the author of each competing essay shall be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device is to be read at the meeting at which the award is made, and the corresponding envelope to be then and there opened and the name of the successful author announced. (*b*) All successful essays become the property of the Association. (*c*) The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction, at a general meeting of the Association. (*d*) The competition is to be confined to those who at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the American Medical Association. (*e*) The competition for the medal will be closed three months before the next annual meeting of the American Medical Association, and no essays will be received after March 1, 1902. Communications may be addressed to any member of the committee, consisting of the following: Dr. Herbert L. Burrell, 22 Newbury Street, Boston, Mass.; Dr. Edward Martin, 415 S. 15th Street, Philadelphia, Pa.; Dr. Charles H. Mayo, Rochester, Minn.

Yellow Fever Institute.—According to the Marine Hospital Reports, a plan for the organization of a yellow-fever institute in the United States Marine-Hospital Service, whose object will be to collect all facts concerning yellow fever, to designate the specific lines of investigation to be made, and to make the investigations, is presented by Dr. Walter Wyman, Supervising Surgeon-General of the United States Marine-Hospital Service. The members of this institute are to be the medical officers of the Service, and others specially qualified. They will be assigned for duty to one of four sections, each section having a special list of topics for consideration. Each of the four sections will be under the direction of one of the medical officers on duty in this Bureau, and said Bureau officers, with the director of the hygienic laboratory, the Surgeon-General, and a secretary, will constitute an executive board, which is to have general oversight of all the investigations. This furnishes a convenient method of administration, as the machinery of the institute will be readily operated in the Bureau, while the actual work will be carried on by members at various places. At present, the Service work on yellow fever is being conducted by a limited number of officers working on more or less independent lines. The institute provides for observation and experiment by a large number of workers in accordance with a general system—in fact, organizing and coördinating the work that has

been going on and which is to be done. The stimulus to the members will be not only the scientific interest in the subject, but the publication of their contributions in the shape of bulletins as often as it seems advisable to the board; and with the Department facilities and necessary funds for incidental expenses, it is believed that the organization will meet with a degree of success warranting its existence. Four sections are proposed—one on History and Statistics; another on Etiology, a third on Transmission, and a further one on Quarantine and Treatment. This is a desirable move and the organization of such an institute a much needed want.

National Hospital at Seattle.—Plans to establish a national hospital at Seattle, Washington, are being discussed by the Chamber of Commerce of that place as a memorial to the late President McKinley. Lieut. A. B. Wyckoff, U. S. N., retired, a member of the Chamber of Commerce, in speaking of the project, said:

"When the hospital has been built and equipped it should be placed in charge of some central and permanent authority for its government and maintenance. I would suggest that it be turned over to the General Government for the treatment of our soldiers and sailors, and the veterans of the Civil and Spanish Wars who may be suffering from serious complaints, like malaria, lung troubles, rheumatism, etc. There are homes for Grand Army men in many States, and there are hospitals for the treatment of soldiers and sailors, but none of them are located in special climates or equipped for the treatment of chronic diseases such as I have enumerated. From my wide experience in all parts of the country, I believe that no climate can be found combining the great advantages for the treatment of the above diseases superior to that of Southern California. A locality could be selected there where the atmosphere is dry and free from all malaria, in the midst of grand and engaging scenery, in the vicinity of hot mineral springs, away from the temptations of city and town, and yet where the patients could have the innocent diversions of boating, shooting, fine roads for driving and bicycling, and all kinds of out-door amusements. A warm and equable climate is necessary for the comfort and happiness of suffering soldiers and sailors, and a location in Southern California meets these conditions, as well as being the nearest point to the Philippines, where a large part of our Army and Navy will be stationed for years to come. I hope, if the Chamber of Commerce takes up the matter of a memorial hospital to our beloved President, it may do it in a definite way and along the lines of the above suggestion. Seattle has a magnanimous spirit, and will not hesitate to recommend another locality for such a purpose if it is thought to be more suitable."

Site for a New Baltimore Hospital.—The Municipal Hospital Commission of this city consummated yesterday the purchase of a site for a new hospital for infectious diseases. The land is on the Reisterstown pike, just outside the city limits. There are ten acres in the tract and the price paid was $20,000. Health Commissioner Bosley has been endeavoring for a year to make the municipal authorities realize the need of such a hospital. He believes that the new site is an admirable one. A number of handsome buildings will be erected.

Health of Philippine Army.—In speaking of conditions in the Philippines, Gen. George M. Sternberg, Surgeon-General of the United States army, who has just returned from the islands, said last week: "I was surprised at the excellence of the hospital service and the arrangements for caring for the sick and wounded. We have a department in the islands that we should be proud of. The percentage of sick remains about the same as during the early part of the campaign, namely about seven per cent. Taking into consideration what we have to contend with over there, and comparing it with the records of the civil war, it will be seen that we have made great improvements in our military hospitals. The new convalescent hospital at Santa Mesa, built of nipa, is almost perfect. The men are subject to malaria, typhoid, and dysentery for the most part. The latter is the worst. A little bubonic plague exists among the natives and Chinese, but it is not enough to occasion alarm or drive people into hysterics. I am well pleased with what I saw, and am satisfied."

Obituary.—Dr. Abram Litton, whose death was recently announced, was the oldest citizen of St. Louis, Mo., and was for fifty years a member of the faculties of Washington University and the St. Louis Medical College.

Dr. James W. Dunphy died last week from tuberculosis at the home of his parents, No. 58 Convent Avenue, New York. He had been an invalid for four years, and for the greater portion of that time had practised medicine at Saranac Lake. Dr. Dunphy was born in 1875, and at the age of nineteen was graduated from the College of Physicians and Surgeons.

Dr. E. W. McClere, of Winsted, Conn., was drowned, last Wednesday. He was thirty-five years of age, and a graduate of a New York College.

Impetigo Contagiosa.—Hodara strongly recommends touching each pustule daily or every second day, with a 50-per-cent. solution of silver nitrate. A cure is said to follow after two to four applications. For children, in case it is undesirable to trust the parents with such a strong solution, one of from 2 to 5 per cent. will suffice, but must be applied once or twice daily, and each pustule then dusted with calomel, 1.0 gram, amyl, 9.0 gram. (*Monatsh. für prakt. Dermatologie*, No. 3, Vol. xxxiii.)

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, September 21, 1901.

THE DEATH OF PRESIDENT M'KINLEY—PROMINENT PATIENTS AND MEDICAL BULLETINS—VARIOUS METHODS OF ANNOUNCING THE DEATHS OF PRESIDENTS AND POTENTATES—SIR MORELL MACKENZIE AND THE EMPEROR FREDERICK.

THE medical profession here has fully shared in the indignation and deep sorrow universally felt by the British people at the shocking crime of which Mr. McKinley was the victim. Many of us, perhaps, were a little doubtful as to the wisdom of the early bulletins which to those who had had experience of the wayward course so often taken by abdominal wounds seemed imprudently optimistic. But we also knew that the late President was in the hands of surgeons on whose skill and judgment the most implicit reliance could be placed; and we awaited the result with confidence. The shock of the fatal issue was all the greater when it came. It has been said that the lowest depth of human misery is reached by the commander of a beaten army; but I have often thought that the position of physicians and surgeons who have to fight a losing battle against death at the bedside of one of the potentates of the world is just as unenviable. For many years one of our foremost surgeons was known to the public as "the man who killed the Emperor," and I have heard an American say in a public speech here that General Grant's end was hastened by the injudicious overfeeding forced on him by his physicians. The late Czar dismissed a physician in whom he had put his trust for years because he failed to achieve the impossible. Foolish criticisms, by no means confined to the laity, have been heard on the way in which the wound which caused the death of President Carnot was dealt with, although the case was from the first past all surgery.

Some superfine gentlemen of the medical profession here profess to feel disgust at the publication in our leading newspaper, the *Times*, of details as to the attempted rectal feeding and its consequences in the case of your late President. Such prudery in a doctor reminds one of the dainty lordling who complained to Hotspur of the soldiers who brought a slovenly unhandsome corse betwixt the wind and his nobility. The question of bulletins must always be a difficult one, and any violation of the privacy of the sick-room is of course in the highest degree indecent. But it is surely absurd to treat the case of the ruler of a powerful nation as on the level with that of an ordinary citizen. The people have, it seems to me, every right to know the truth—if not the whole truth—as to the condition of one in whose existence each of them may justly claim to have a personal interest. Presidents, princes and potentates and those about them should encourage this curiosity within reasonable limits; in the case of monarchs, at any rate, it would augur ill for the continuance of the dynasty if the people were indifferent about their illnesses. This is a truth which the Royal Family of Great Britain has never yet grasped. The late Queen, our present "most gracious" sovereign, and even the smaller fry of Royal personages have always shown a morbid dislike of publicity in regard to the ills their august flesh has from time to time been heir to. I suppose they do not care to have it known that they are subject to the common lot of humanity. Hence bulletins about them are edited with the rigor of a Russian press censor, and are carefully pruned of any expression that might be likely to convey anything but a vague general statement. Poor Lear said his hand smacked of humanity. The humblest of our Royalites would not make such an admission about any part of his sacrosanct person. As a curious instance of the courtly reticence imposed on physicians even after the death of a royal patient, I may quote a passage from the bulletin in which the death of Queen Victoria was announced. It was stated that "in the last few hours of life paresis of the pulmonary nerves set in, the heart beating steadily to the end." The exact meaning of this cryptic phrase was the subject of some discussion among members of the medical fraternity, and at last some one plucked up courage to ask one of the distinguished men who had ministered to the Queen in her last moments what the words were intended to convey. He threw the responsibility on the author of the bulletin, suggesting, however, that the phrase "paresis of the pulmonary nerves" was intended to get over the ugly term "tracheal râles." The author's own account was that it was used to cover the act of dying from what is known as paralytic filling of the lungs. So that all this mystery and diplomatic ingenuity of phrase were thought to be necessary to avoid the blasphemy of saying that the Queen had the death-rattle in her throat as she passed into the land of shadows!

In the account of the President's death given in our newspapers it was stated that the announcement of the fatal result was made by Dr. Rixey in the words "The President is dead!" There is a simple dignity about this that compares very favorably with some announcements of a similar kind that have been made in Europe. It is said that the fact of Queen Victoria having vacated the throne she had occupied so long was notified to the heir of the crown by one of the physicians as follows: "Your Majesty, Her Majesty is dead!" For grotesque incongruity this would be difficult to beat. After the close of the long agony of the Emperor Frederick of Germany, Sir Morell Mackenzie announced the fact to those about the bed with uncouth bluntness in the words "He is quite dead now." The most graceful of such announcements that I have seen is that of Dr. Barth to Madame Thiers on the death of the first President of the new French Republic: *"Madame, votre illustre mari a vécu!"*

The mention of Morell Mackenzie reminds one of a statement which recently appeared in one of your contemporaries to the effect that, owing to his conduct in connection with the case of the Emperor Frederick, he was tabooed by the medical profession here and died of a broken heart in consequence. The fact is that Morell Mackenzie had been in bad odor with his professional brethren for many years before he had anything to do with the Emperor. It would serve no useful purpose to discuss now whether they were, or were not, justified in ostracizing him; but it is only right to say that he was judged very harshly and treated as an outcast by men not one whit his superiors in professional morality and infinitely his inferiors in capacity. British doctors, being like most of their race, naturally inclined to worship at the shrine of success, and holding as an article of faith that any connection with royalty has a purifying effect on the worst social sinner, would have placed Mackenzie on a pinnacle of glory—had he succeeded. But failure meant ruin. I think, if the truth could be got at, it would be found that the profession is now ashamed of the rancor with which, at the instigation of men who owed everything to him, they pursued a man who had many fine qualities and who, had not an evil fate prevented his fulfilling the promise of his early days, would have been one of the glories of British medicine. He had bitter cause to feel the truth of the maxim "Put not thy trust in princes." He risked his reputation and his practice in trying to serve our Royal Family, for it was to ensure the Empress a larger allowance that the policy of *laissez aller* was adopted in the case of the Emperor—and when he had done what was wanted, they cast him off as a workman throws away a broken tool.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

ULCERATING GONORRHEAL AORTIC ENDOCARDITIS —GASTRIC CANCER—COAGULA IN THE URINE—TRAUMATIC SCARLATINA—RACHITIC SPASMUS NUTANS—SO-CALLED FETAL RACHITIS.

MICHAELIS and JACOB, at the Verein für innere Medicin in Berlin, July 8, 1901, showed a heart with ulcerating gonorrheal aortic endocarditis, taken from a man who died of the disease two months after the infecting coitus and diagnosed as such during life. The confirming bacteriological and pathological considerations were the distinct and characteristic Gram's stain, the deep intracellular abode of the germ in the valve-flaps, and the characteristic growth of it only on the fixed well-known media. Since Von Leyden expounded the first definite case of this instructive condition, reports of about fifty subsequent cases have appeared in literature.

ALBU showed a specimen of gastric cancer, at the pylorus, whose duration of four years had indicated benignity. In structure it was an adenocarcinoma. Contrary to the contentions of many, Albu maintains that sarcinæ occur only in benign gastric growths. This is contrary to the teachings of Strauss and others.

A. ROTHSCHILD presented specimens of coagula from the urine of a man, fifty-nine years old, who for a long time suffered from hematuria, accompanied by the presence of long coagulated masses. Their size was often that of the little finger and suggested the ureters as the seat of origin. They were rather waxy and transparent. Chemically they could not be definitely made out, excepting that they were not composed of fibrin. Late in the patient's disease an abdominal tumor manifested itself. Upon autopsy this was found to be a giant-cell sarcoma of the upper pole of the kidney. In the interstices of this sarcoma was much more of the same coagulated material as had been found in the urine. A large coagulum presented also in the ureter.

LIPPMANN related the history of a case of evidently traumatic scarlatina. The patient was a hale and hearty boy who during a fist-fight was struck in the cheek. That night he was overtaken with headache, chills and fever. Soon after an eruption appeared, which soon proved to be true scarlatina. The disease ran its usual course and recovery occurred only after a pronounced exfoliation. The theory of the origin of this attack is that the tonsil on the side of the face struck must have contained the streptococci and by the blow was sufficiently inflamed to set up their activity and then the scarlatina. No other possible origin of the disease was discoverable.

STAMM, at the Biologische Abtheilung des ärtzlichen Vereins, Hamburg, June 18, 1901, read a paper on the subject of spasmus nutans of children. He had himself seen 8 cases in his practice; 5 of the children were just over one year, 1 was less than a year and 2 were nearly three years old. Spasmus nutans includes the nodding, swaying or turning of the head with or without cramps and often appearing during the first year of life. The muscles of the trunk and of the extremities usually escape, but those of the eye, on the contrary, are often involved. Nystagmus was the form of this affection usually encountered by him and was of the horizontal variety, usually bilateral, occasionally unilateral. The pupillary reflexes and fundus were always normal. There never were any symptoms which might point toward central nervous lesions. The nystagmus always increased in intensity if the children were at all restrained and the head movements hindered. Once in a while there appears a strange vacant fixed eye as if the child were dreaming open-eyed. The eyes are then usually turned to one side without being fixed on any special object, and meanwhile the noddings of the head are apt to be excessively severe. Loss of consciousness does not appear to have occurred. In most of the children the head movements preceded the nystagmus. In all of the cases there were present the symptoms of manifest rachitis, which always yielded to ap-

propriate treatment and left the individual in perfect health. Definite distinction must be drawn between this simple, easily cured spasmus nutans and those malignant and serious forms of spasm called salaam cramps, epileptic and eclamptic nutant spasms, due always to serious cerebral lesions, accompanied by various degrees of lumbar and extremity pareses or paralyses, loss of consciousness and commonly leaving behind them epilepsy and various degrees of idiocy or mental imperfection. Such always also have central lesions in the nervous system at their basis. Likewise in contradistinction to this rachitic must be placed the purely congenital spasm of the eyes and that acquired often during childhood, frequently accompanied by a twisted position of the head and neck and sometimes by their nodding also. The consideration of the history of these cases either as a congenital or acquired affection will establish the diagnosis. Further, the ready way in which the rachitic type yields to treatment is another means of distinction. He presented to the society a case of acquired rotatory spasm, in which the patient, a strong seven-year-old boy, had in early childhood developed a macula corneæ, and since that time had suffered from rotation of the head to one side. In discussing the various causes which in literature are assigned as the various etiologic factors (dentition, worms, various intestinal dyspepsias, trauma, etc.), Stamm was inclined to take the view of Raudnitz, who assigns it to vision and compares it to the peculiar nystagmus seen in mountain dwellers, comprising a depression of the eye toward the ground. The habits of life in these people from infancy tend always to acquire. For the true spasmus nutans rachitis is always the sole etiological factor. For the selection of certain muscles to determine the special type of nodding in various cases, doubtless we have to consider local meningeal disturbances, especially when the skull is involved in the disease to any marked degree. Therapeutically phosphorus is almost a specific.

SIMMONDS read a paper on the topic of the so-called fetal rachitis and aimed to bring out fetal life and its relations, chiefly by pure inheritance rather than by the state of parental health at the moment of conception to this disease in early infancy. In summing up the causes of rachitis, reckoning with this one must not be forgotten, for one sees cases in which the disease appears, although the food and hygienic surroundings are ideal, with the sole evident factor pure inheritance from the mother or father or both, themselves in infancy rachitic. And contrariwise one sees infants in bad surroundings, with poor food, but with a non-rachitic parental history, who do not develop the disease. It must be distinctly grasped that the question is one of truly inherited disease not of the congenital type, and at that the inheritance is rather one of disposition than of the disease itself. Concerning the absolutely congenital type of rachitis, that is, a rachitis of intra-uterine origin, he stated that he had never found one case of it, although he has had at hand a vast quantity of autopsy material, which he has diligently searched for it. He therefore stated that a really congenital rickets is probably an exceedingly rare disease. His investigations were carried to the histological standpoint also. What in earlier days was called congenital or intra-uterine rickets he has repeatedly found to be imperfections in bone development, periosteal or cartilaginous in origin, which could fittingly be called *osteogenesis imperfecta* and *chondrodystrophy*. In each the development of the bones in length is less than the normal; in the former the consistency is soft and friable and in the second it is normal. Other authorities agree in this; for example, Kaufmann distinguishes three groups of chondrodystrophia fetalis as follows: (1) Hypoplastic, in which the epiphyses remain small; (2) malacic, in which softening is present in the cartilage; (3) hypertrophic, in which a thickening of the epiphyses occurs, a very rare form. Roentgen-ray pictures were exhibited showing the hypertrophic form with its very short long bones, much bulged at the extremities, narrow pelvis and other deformities, especially bending inward of right and left femora and tibiæ at the knee. Microscopically it was shown that the lesion was purely a cartilaginous change; the cells at the epiphyseal line were not distinguishable, as they should be from the bone, and were in addition hyperplastic and hypertrophic. In the other case there was a periosteal cell-element invasion which distinguished it from the other. Under cretinism or semi-cretinism these cases could not be classed, because the typical facial expression, the characteristic development of the nasal bones, the precocious hardening of the synchondrosis spheno-occipitalis, the gross and minute pathognomonic conditions of the thyroid gland, the well-known fatty redundancy of the skin, the hypertrophy of the skin and the usual family history were all absent; in brief, not one element bespoke cretinism. Finally, therefore, the result of his careful studies up to the present point toward the rarity of truly congenital rachitis.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-first Annual Meeting, Held at Philadelphia, September 24, 25, 26, 1901.

SECOND DAY—SEPTEMBER 25TH.

(Continued from page 516.)

Bronchial Affections in Gout and Obesity.—This paper was read by Dr. J. M. Anders of Philadelphia and dealt with the various forms of bronchitis and asthma associated with obesity and the gouty state. In the obese the respiratory difficulty is often supposed to be due to mechanical effects of the fat, but in many instances there

is a low respiratory capacity and an anemia. The condition of the muscles and blood has, therefore, much to do in causing the dyspnea. A thoracic symptom of overfatness is pain, worse on exertion, in the subscapular and intrascapular muscles. A passive venous congestion of the bronchial mucosa in these cases causes a hyperemic bronchitis. There is cough aggravated by exercise and often occurring in severe paroxysms after a night's rest. Bronchial affections are more common in the anemic than in the plethoric variety of obesity. Closely connected with the last variety of bronchitis is asthma. This is probably due to the heart to some extent, but defective respiratory capacity is the greatest cause. Asthma in the corpulent is often due to gastric disturbance. The gouty state often accompanies obesity, and there is reason to think that both are due to hepatic inadequacy. This may lead to obesity owing to interference with the glycogenic function of the liver. Severe paroxysmal dyspnea in obesity is not true asthma. Erect posture relieves this condition. Asthma occurs in five per cent. of obese persons. Fifty per cent. of cases can be cured by overcoming the causative condition. Gout and obesity are closely associated. Gout independent of obesity is a potent factor in causing asthma. The attacks alternate or coincide with the attacks of gout, especially in the chronic and irregular forms. To treat successfully this form of asthma the etiological condition must be borne in mind. There are cases of the gouty state where conspicuous changes in the joints and elsewhere are lacking, but hepatic and renal inadequacy—the lithemic state—are present. In these the true cause of the asthma is often overlooked. Exacerbations in this form may occur any season of the year, as they are due to fluctuations in the uric acid present.

Pseudoleucemia, Enlargement of Liver and Spleen, Due to Lymphatic Tuberculosis.—Dr. Joseph Sailor of Philadelphia reported three cases of this condition which have come under his observation during the past six months. The cases were briefly described as follows: There is a moderate anemia, no leucocytosis, normal differential count, with gradual wasting, general anasarca, and ascites toward the last. The liver and spleen are enlarged. In some the temperature is very irregular. The superficial lymphglands are rarely enlarged, but autopsy shows tuberculous enlargement of the abdominal and mediastinal glands.

The Duration of Immunity from Diphtheria Antitoxin.—This was discussed by Dr. Henry D. Jump of Philadelphia. He quoted many series of statistics and also gave his personal experience. He concludes that immunity can be conferred, but that its duration is short—ten to twenty-one days perhaps. The expedient should be used in every family when a case is discovered.

Medical Examination as a Prerequisite to Marriage.—Dr. J. C. Bateson of Scranton read a paper in which he strongly advocated legislation requiring such examination.

At this session papers were also read by Dr. E. N. Ritter of Williamsport, on "Lay Medical Education"; Dr. John M. Batten of Downingtown on "Strength"; Dr. Louis J. Lautenbach of Philadelphia on "The Doctor's Fee: Is It Fixed and Definite?"; Dr. Linnæus Fussell of Media on "Therapeutic Notes."

Third Day—September 26th.

Address in Surgery.—Dr. James W. McFarlane of Pittsburg delivered this address, the subject of which was "The Arrest of Hemorrhage, with Especial Reference to Torsion Where Feasible to the Exclusion of All Other Methods." Dr. McFarlane advocates the use of free torsion in all cases instead of the ligature. When free torsion fails, as it will in occasional instances, limited torsion is not indicated. The ligature or some form of forcipressure is needed. The use of torsion was begun in the Western Pennsylvania Hospital in 1870. Soon the institution had a wide reputation for the rapid healing of amputation stumps. The method is now used almost exclusively in that institution. All sized arteries, from the femoral down, are treated in this way, atheroma being no contraindication. The method is superior to the ligature in point of time of appliance, it leaves no foreign body in the tissues, and no assistant, who might carry sepsis, is needed.

The Operative Treatment of Bladder Descent and Sacculation.—This was the title of a paper read by Dr. George Erety Shoemaker of Philadelphia. Reference was made to females in whom there are perineal lacerations and more or less prolapse of the uterus and bladder. The operations of curetting, amputating the cervix, repairing the cystocele and perineum, and suspending the uterus must all be done. The departure made by Dr. Shoemaker is in the management of the cystocele. The Emmett, Stoltz and other operations are too superficial. The best way is to cut out completely the anterior vaginal wall back to the areolar tissue. The bladder is peeled off from the vagina and the cut edges brought together. In 25 cases this expedient has given good results and relieved the bladder symptoms previously present.

The Present Status of the Bottini Operation.—This paper was read by Dr. Orville Horwitz of Philadelphia, who gave statistics of 834 cases by 38 operators, 36 being his own. The paper was a strong argument in favor of the Bottini operation. Horwitz believes that, if full data be obtained by a minute examination in each case, the operation is not so blind as that of tearing the prostrate out through a small hole in its capsule. Of his 36 cases there was a tendency to recurrence in only 3 instances. Constriction of the neck of the bladder is to be little feared. The principal advantages of the operation are the short time necessary, the slight shock, the rapid

convalescence, and the low mortality. It is the best radical operation yet devised.

Surgery in its Relation to Neurasthenia.—This was the subject discussed by Dr. G. D. Nutt of Williamsport. He pointed out some of the pathological states that by constant irritation produce neurasthenia. Where surgical operation is feasible, the treatment is indicated.

Rare Complications of Appendicitis, with Their Treatment.—Dr. Ernest La Place of Philadelphia read a paper on this subject. The speaker, after discussing the various infections present in appendicitis, spoke of the rare abscess formations sometimes met with. They show in various regions of the body, no pain being referred to the appendix. One case reported was a supposed empyema. Perforation of the ureter, bladder or rectum is sometimes met with. These cases show the necessity for prompt surgical intervention. In every case of appendicitis it can be said that there was a time when operation would have saved the patient's life. No one should be guilty of letting that time go by.

Radical Cure of Hernia.—The principles and detail of his method were given by Dr. Edmund Holmes of Philadelphia. In a normal person the pressure of the abdominal viscera is obliquely against the internal ring and inguinal canal. In hernia formation the pressure is straight in the line of the canal. The object of operation is not so much to close the canal as to restore the parts, so that pressure will again be indirect. For this reason not too much attention should be given to closing the external ring or bringing down the rectus muscle or diminishing the size of the cord. A new internal ring and new inguinal canal that is oblique are to be formed. The technic of the operation was given. Chromicized catgut is used, except for the skin which is united by silkworm-gut. The patient is kept four weeks in bed and an abdominal support worn for one year.

A Case of Perforating Typhoid Ulcer; Laparotomy; Recovery.—This case was reported by Dr. W. L. Rodman of Philadelphia. The patient was a girl of twelve who was suffering from a severe attack of typhoid fever. Perforation had occurred at least thirty-seven hours before operation. At the time of operation there was general peritonitis, frequent vomiting, marked tympany, and a weak pulse beyond 150 per minute. Ether was given and the abdomen opened in the middle line, as it proved, directly over the perforation. The opening was closed without paring the edges, the abdomen flushed, and drainage of gauze and a tube inserted. The operation lasted sixteen minutes, during which the patient received heroic stimulation. She finally made a perfect recovery in spite of the fact that a hemorrhage from the bowel occurred forty-eight hours after the operation. Dr. Rodman concludes that every case of perforation should have the benefit of laparotomy, even though seen some time after the accident. The case reported was thirty-seven hours after perforation, and a case of gunshot wound recovered, though operated upon fifty-one hours after the injury was received. General anesthesia can be borne in such cases. In adults he would use cocaine. Children are too nervous to give the operator needed coöperation when local anesthesia is used. An attack of sudden pain accompanied by a nervous chill the day before perforation suggested the possibility of a preperforative stage in this case; but as there are no pathognomonic signs of perforation itself, Dr. Rodman cannot see how a preperforative stage can be diagnosticated. Military surgeons look for perforations to repair themselves. It is apparently proper to decline to operate in military practice, but in civil practice it is just the opposite—as early laparotomy as shock, if present, will allow.

A Case of Ascites Due to Hepatic Cirrhosis, Treated by Transplanting the Omentum Between the Peritoneum and Abdominal Wall; Result with Autopsy Eight Months Later.—Dr. W. J. Roe of Philadelphia reported this case. Ascites was marked and intractable, the abdomen having been tapped 31 times before operation. The ascites was practically cured by operation, the patient dying from the liver condition, however. That organ was markedly cirrhotic with some fatty change also present.

Address in Obstetrics.—This was delivered by Dr. David Funk of Harrisburg. The address dealt with placenta previa, symphysiotomy, septicemia, eclampsia, and tubal gestation. In cases of placenta previa Cæsarian section is indicated in complete previa, in primiparæ when the mother is exhausted, in cases with rigid os, and in transverse positions with prolapse of the cord. Symphysiotomy is being gradually displaced in this country by Cæsarian section. Nothing new has developed in the prophylaxis of septicemia. Tubal gestation should be more often recognized and more cases saved after rupture.

Results of Operations for Cancer of the Uterus.—In this paper Dr. Charles P. Noble of Philadelphia gave statistics of various observers, including the results in 32 of his own cases. He thinks a fair conclusion from the latter is that 20 to 25 per cent. of cases are permanently cured.

Local Treatment in Gynecic Practice.—Dr. Frank C. Hammond of Philadelphia emphasized the value of local treatment in many pelvic conditions. Operation is undoubtedly avoided in many instances, but in a percentage of cases requiring operation local treatment will benefit the patient before operation. The employment of the douche, tampon, pessary, etc., has a proper place in treatment. The tampon is especially valuable in the way of medication and mechanical effect.

Instrumental Perforation of the Uterus.—A paper on this subject was read by Dr. Wilmer Krusen of Philadelphia. The ease with which a flexed or softened uterus can be perforated was emphasized. Dr. Krusen believes that no one should introduce an instrument into the uterus until he is able to diagnose the position of the

organ and discover if disease of the appendages be present. The case reported was one of perforation not recognized until omentum appeared in the vagina. Operation saved the patient.

Extra-Uterine Pregnancy.—Dr. F. P. Ball of Lock Haven reported the case of a woman who had had two extra-uterine pregnancies. Both were tubal pregnancies, one occurring three years after the other.

A Contribution to Clinical Therapeutics.—Dr. John V. Shoemaker of Philadelphia read this paper and exhibited a case of tinea versicolor.

Typhoid Fever in a Prematurely-Born Child.—This case was reported by Dr. Harry C. Westervelt of Pittsburg. On January 3, 1901, a woman in the third week of typhoid fever gave birth to a child at thirty weeks' term. High temperature in the child was noticed the following day. It fluctuated between 99 and 106° F. for some weeks, finally becoming normal February 21st. The child at birth weighed three pounds and fourteen ounces. March 21st it weighed eight pounds. September 21st the weight was over fourteen pounds. The child has also had an attack of whooping-cough.

Ruptured Tubal Gestation and the Physician.—A paper with this title was read by Dr. J. M. Fisher of Philadelphia. He stated that many cases were lost because they were not diagnosed. The knowledge of a few well-defined symptoms will prevent this error. Two points of the patient's own observation should lead one to suspect tubal gestation—disturbance of menstrual function and sterility of several years' duration following pregnancy. The symptoms of rupture are sudden, sharp abdominal pain, collapse, and acute anemia.

A New Method of Performing Nephropexy.—A paper on this subject was read by Dr. Henry D. Beyea of Philadelphia. The kidney is delivered in the usual manner and a piece of small rubber drainage tube passed around each pole of the organ, well toward the hilum, and tied externally. The tubes pass through the perinephric fascia and are thus kept in place.

Value of Tallquist Hemoglobin Scale to the General Practitioner.—Dr. M. H. Fussell of Philadelphia emphasized this point. It is accurate within 5 per cent. It is cheap and the test is rapidly made. To practitioners who say they have no time for such work, Dr. Fussell says: "Yes, it does take time, but it is worth it."

Fracture of the Neck of the Femur.—Dr. Chas. E. Thomson of Scranton reported this case. The patient was a man of sixty-two, and had gone two months without treatment. The femur was laid bare, some loose pieces of bone removed and a silver nail, 2½ inches long, driven through the trochanter and neck of the bone. There was some sinus formation afterward, but healing eventually followed. Eighteen months afterward the man walked without a cane or crutch and had 90° of painless motion.

The Pathology, Symptomatology, and Treatment of Uremia.—Dr. David Riesman of Philadelphia spoke on this subject. He referred to some nerve lesions caused by uremia—hemiplegia, aphasia, mental confusion, and insanity. Treatment is bleeding and sweating. A method of sweating which never fails is to put the patient in a bath at 110° F. for ten minutes and then in a hot pack for twenty minutes.

The Etiology of Acute Dysentery.—This was the subject of brief remarks by Dr. Simon Flexner of Philadelphia. He stated that it was definitely proven that there was a specific cause for acute dysentery. The organism resembles the typhoid-fever bacillus. An antagonistic serum can be produced.

The following papers were also presented: "Some Surprises Met with in the Practice of Obstetrics," by Dr. R. B. Ewing of West Grove; "The Value and Importance of Teaching the Fundamental Branches of Medicine from the Standpoint of Their Practical Application," by Dr. G. G. Davis of Philadelphia; "Post-Typhoidal Nephritis and Chronic Nephritis with Intercurrent Typhoid Fever," by Dr. J. E. Talley of Philadelphia; "Statistics of Typhoid Fever at the Philadelphia Hospital from 1897 to 1899," by Dr. H. B. Allyn of Philadelphia; "Amyotrophic Lateral Sclerosis," by Dr. T. L. Coley of Philadelphia.

The lantern demonstration Thursday evening was a most instructive feature. It included "The Life History of the Ovary," by Dr. J. G. Clark; "Some Lesions of Diphtheria," by Dr. R. M. Pearce; "Skiagraphy in Supposed Sprains," by Drs. C. G. Ross and M. I. Wilbert; "The Various Types of Smallpox, with Remarks on Differential Diagnosis," by Dr. Jay F. Schamburg; "Some Medical Uses of the X-Rays," by Dr. M. K. Kassabian; "The Kromskop," by Dr. F. E. Ives.

The officers chosen for the ensuing year are: President, Dr. F. P. Ball, Lockhaven; Vice-Presidents, Drs. Walter Lathrop, Hazleton; A. S. Harshberger, Lewistown; R. W. Stewart, Pittsburg; J. K. Weaver, Norristown; Secretary, Dr. C. L. Stevens, Athens; Assistant Secretary, Dr. W. B. Erdman, Macungie; Treasurer, Dr. G. B. Dunmire, Philadelphia.

The meeting adjourned to meet in 1902 at Allentown.

CHICAGO PATHOLOGICAL SOCIETY.

Stated Meeting, Held June 10, 1901.

The President, L. Hektoen, M.D., in the Chair.

Dr. Alice Hamilton presented a paper dealing with cell division in the central nervous system of the white rat before and after birth; the number and distribution of the mitoses, the period up to which they persist, and their character. Mitoses were found along the ventricular surfaces in the early stages of development, gradually ceasing here, and increasing in the outer layers, until at birth, almost all are in the outer layers. At birth mitoses are numerous and persist up to

the end of the fourth day; beyond this period no examination was made. The dividing cells are of two kinds: (1) small, devoid of visible cell body, resembling cells of the neuroglia; (2) large, with abundant cytoplasm, round, pear-shaped or spindle-shaped. These are in the gray matter of the cord and brain and correspond in measurements with the multipolar and pyramidal cells. Conclusion: In the later stages of development the offspring of the germinal cells become partially differentiated, but without losing their power to divide. The large dividing cells are, then, immature nerve cells; the small are cells of the neuroglia. In the case of the white rat, these cells retain their power of division until after the fourth day of extra-uterine life.

Dr. Wm. B. Wherry reported a case of so-called malignant (staphylococcus) carbuncle of the upper lip followed by pyemia. A barber, twenty-three years old, entered Prof. Bevan's service in the Presbyterian Hospital on February 7, 1901, and died on the 8th at 11.15 p. m. About a week before his admission he extracted a "dead hair" from his upper lip. This was followed by redness of the lip and swelling which rapidly extended to the side of the face and shoulder. He rapidly grew worse and died with all the characteristic symptoms of septicopyemia.

The postmortem examination was held twelve hours after death by Prof. Hektoen. The anatomical diagnosis is as follows: Acute, diffuse, purulent and necrotic staphylococcus inflammation of the upper lip and adjacent parts of face; multiple abscesses and hemorrhagic pneumonic areas in lungs; double fibrino-purulent pleuritis; abscess in spleen; acute splenic swelling; cloudy swelling of kidneys and liver; persistent thymus. Bacteriologically, a pure growth of the staphylococcus pyogenes aureus was isolated from the lip, heart's blood, pleural exudate, liver and spleen. Histologically, the lip shows dense cellular infiltrations with foci of necrosis containing groups of cocci which stain by Gram's method. The lung contains many pneumonic and hemorrhagic areas and mycotic emboli. The other organs show the characteristic changes of a severe infectious process. The dangers of this affection depend chiefly upon its location and the virulence of the infective agent; the prognosis is extremely grave on account of the liability to thrombosis and embolism. The treatment of the early stage which has so far given the best results is excision of the necrotic area and packing with iodoform gauze. After thrombosis and embolism have occurred, treatment seems to be hopeless.

Dr. Wm. B. Wherry read a paper on the distribution of segmentation and fragmentation in the myocardium. Twenty hearts were carefully preserved and eighteen pieces were taken from each heart. In searching for changes, the divisions into simple segmentation, and degenerative fragmentation and segmentation, made by J. B. MacCallum, were kept in mind. Degenerative fragmentation and segmentation occurred twice in the left auricle. Segmentation was distributed in the following order of frequency: left papillary muscles, wall of left ventricle, right papillary muscles, posterior surface of apex, etc. The changes in the walls practically correspond to the changes in the papillary muscles. "Diffuse" segmentation of both left papillary muscles accompanied by diastasis and displacement of the segments seems to indicate more or less general segmentation and fragmentation throughout the ventricles.

Dr. E. Friend reported a case of cystadenoma of ovary. Patient was thirty-one years old; married five years; never been pregnant; menstruation regular and painless; family history negative. About eight years ago severe pain developed in the region of the left ovary, but upon examination this was pronounced healthy. About one year ago a swelling appeared, extending from the symphysis pubis to the umbilicus, but this gave no pain until about a month ago. She then entered the hospital and at operation there was removed from the right ovary a small, multilocular cyst. The patient made an uninterrupted recovery and was discharged from the hospital cured. Adenomas develop as a result of disturbance in the formation of Pflüger's tubes in the growing ovary. Cystadenomas are simply adenomas which have undergone cystic degeneration; they consist of long, round, tortuous cavities separated from each other by connective tissue. These cavities may become obliterated entirely or partially by papilliform growths.

The present officers were re-elected for the coming year.

BOOK REVIEWS.

HEALTH AND HYGIENE FOR THE HOUSEHOLD. By JOHN JOSEPH NUTT, B.L., M.D. The Abbey Press, New York.

THIS is a small manual meant for the lay reader, containing a simple, accurate and readable exposition of the general truths of hygiene. The subjects treated are Bacteriology, Ventilation, Heat and Light, Milk, Water and Sewage, Foods and Drugs, Personal Hygiene, The Family Physician, and the Most Dangerous Classes of Diseases.

THE DISEASES OF THE RESPIRATORY ORGANS, ACUTE AND CHRONIC. By WILLIAM F. WAUGH, A.M., M.D., Professor of Practice and Clinical Medicine, Illinois Medical College, etc. G. P. Englehard & Company, Chicago.

PROFESSOR WAUGH'S little book is the last issue of the Standard Monograph Series and is arranged in two parts devoted respectively to acute and chronic affections of the respiratory organs. The purpose of the book is stated by the author in the first sentence of the preface: "It has been prepared because of the writer's belief that the treatment of acute affections of the respiratory organs has progressed far beyond that given in the text-books on practice." The program that

the author thus outlines for himself would seem to be rather extensive for so small a book. The drug treatment of respiratory diseases is very fully considered. There is, however, an abiding faith in the efficacy of drugs that is not shared by most of the medical world. Moreover, the busy practitioner would not always find it easy to decide just what is the author's favorite remedy in certain cases.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. Edited by SOLOMON SOLIS COHEN, M.D., Vol. I., Books 1 and 2. ELECTROTHERAPY by GEORGE W. JACOBY, M.D., Consulting Neurologist to the German Hospital, New York. P. Blakiston's Son & Co., Philadelphia.

DR. COHEN here gives us the opening volumes of a new system of therapy which he is pleased to call Physiologic Therapeutics. By this he means a system of therapeutics in which drug actions play no part. In it he hopes to be able to compass the range of therapy, and, if his several contributors are as successful as Dr. Jacoby in his initial volumes, there will be every reason to believe that he has done so.

These two volumes on electrotherapy are very complete and we believe that Dr. Jacoby has given us a standard work which will be of service for many years to come.

In the first volume he considers at great length, too great it may seem, the elementary principles of electricity; these need no comment save that the applications are very clearly expressed and the point of view of the writer is that of a therapuetist rather than a physicist. This first book also has a complete description of the apparatus required for diagnostic and therapeutic purposes. It is well illustrated and will prove of service to the practitioner.

Book 2 treats of electrophysiology and electropathology, and contains as well several articles on the use of electricity in surgery and the specialties.

This work is to be warmly commended, not only for the matter contained therein, but also for its convenient and practical form.

TRANSACTIONS OF THE AMERICAN MICROSCOPICAL SOCIETY. Twenty-Third Annual Meeting, 1900. Vol. XXII. Edited by the Secretary, HENRY B. WARD, Lincoln, Nebraska.

WE have had occasion to comment on the good work done by this Society since its new birth, and the present volume bears evidence of the continued excellent character of the research carried on by members interested in the microscopical sciences.

Of the papers bearing on the medical sciences may be mentioned the Detection and Recognition of Blood by A. M. Bleile; papers on Municipal Water Supplies by H. N. Parker, G. C. Whipple, and F. S. Hallis. An addition to the Parasites of the Human Ear, by Roscoe Pound; and notes on the Parasites of Lake Fish by Henry B. Ward.

There are a number of papers of biological interest. The volume is a worthy companion to its immediate predecessors.

OPERATIVE SURGERY. By JOSEPH D. BRYANT, M.D., Professor of the Principles and Practice of Surgery, Operative and Clinical Surgery, in the University and Bellevue Medical College; Visiting Surgeon to Bellevue and St. Vincent's Hospitals, etc. Vol. II. Operations on Mouth, Nose and Esophagus, the Viscera Connected with the Peritoneum, the Thorax, and Scrotum and Penis, and Miscellaneous Operations. D. Appleton and Company, New York.

THE first volume of this hand-book deserved much more than the passing word of praise we were able to bestow upon it, and even a cursory examination of this, its complement, makes us feel equally impotent in attempting to do it justice in the brief space of the conventional review.

Its title sufficiently indicates the range of its subjects which, since it embraces the all-important and dramatic topics of genito-urinary and abdominal surgery not only is of itself intensely interesting, but gives the author opportunity for some brilliant descriptive writing which makes the volume a most fascinating one to read.

Based on the same general line of treatment of the subject matter and carried out with the same minute attention to detail which at once placed its predecessor in the front rank, this volume is essentially a guide for the practising surgeon and is perhaps too elaborate for the needs of the student, but for the actual workman its value cannot be overestimated. In addition to beautifully clear and concise descriptions of all the recognized technics, as well as of minor points that are evidently the fruit of the most exhaustive and painstaking search of the literature, the results of the author's own experience are embodied in paragraphs usually entitled "precautions" or "fallacies," which draw attention to difficulties and contingencies likely to confront the occasional operator and, unless he has been forewarned, jeopardize the result of his efforts. In the first chapter dealing with the nose, mouth and esophagus, the two most important topics, *vis.*, excision of the tongue and esophagotomy, with the various stricture operations receive ample attention, eight methods for performing the former being described. The second chapter, devoted to operations on the viscera connected with the peritoneum exclusive of gynecological work, makes the main bulk of the book and is a masterpiece of lucidity and comprehensiveness. The complicated subject of intestinal anastomosis is well-handled and the frequently very intricate manipulations necessary in some of the operations are made clear and intelligible while special subjects like appendicitis receive adequate and thoughtful consideration. The section on hernia is remarkably thorough, and both in point of writing and illustration is one of the best in the book. Cushing's method of herniotomy under lo-

cal anesthesia is described, although the author is non-committal as to his own opinion of the value of the procedure. The chapter on the anus and rectum is unusually full, though we miss the description of Maunsell's useful method of telescopic proctectomy. The next section treats of the neck and thorax, the critical operation of bronchotomy in its various forms being adequately described as well as the technic of intubation. The final chapters on the genito-urinary tract and on various unclassified operations, such as the suture of ununited fractures and excision of the cervical sympathetic deserve nothing but praise and reflect the most modern teaching.

From a pictorial standpoint the book is in a class by itself, for in addition to their great profusion the illustrations are thoughtfully chosen and for the most part beautifully executed. The diagrams are really enlightening and the perspective drawings accurate, while the full-page photographs of the instrumentarium required for each type of operation are both instructive and practically useful. As it stands in its completed form the work is one that American surgery may well be proud of, and it will undoubtedly take precedence over all others of its kind for many years and be an enduring monument to the skill and learning of its author.

LECTURES ON THE HISTORY OF PHYSIOLOGY DURING THE SIXTEENTH, SEVENTEENTH AND EIGHTEENTH CENTURIES. By SIR M. FOSTER, K.C.B., M.P., M.D., D.C.L., Sec. R.S., Professor of Physiology in the University of Cambridge, and Fellow of Trinity College, Cambridge. University Press, Cambridge. The Macmillan Company, New York; $2.25.

"To Dr. L. C. Lane of San Francisco and to any other friends of that new world, the story of whose life is as yet so short, but must in time be so great, I offer as a token of my friendship this fragment of the story of the old world's life." This is the graceful and fitting dedication to this volume making up the "Lane Lectures" delivered by Sir Michael Foster at the Cooper Medical College in San Francisco in 1900.

It is a pleasing thought that so excellent an idea as the gathering together somewhat of the lives of the workers in physiology in these early centuries should have been chosen by one of the acknowledged masters of physiological thought and the medical reader is to be congratulated that so able and interesting a book is available.

The opening chapter on Vesalius, his Forerunners and Followers, sketches in a pleasing manner the state of physiological knowledge of the time. This is followed by an account of Harvey and his work; Borelli and the influence of the newer physics; Malpighi and his histological researches and their influence on physiological teaching. Van Helmholtz and the rise of Chemical Physiology make a fifth chapter, and following this in order are chapters on Sylvius, The Physiology of Respiration in the Seventeenth Century, The Physiology of Digestion in the Eighteenth Century, The Rise of the Modern Doctrines of Respiration, Black, Priestley, Lavoisier, and the Older Doctrines of the Nervous System. Such is the brief skeleton of the contents of this excellent series of lectures. We recommend them most heartily to our readers.

ATLAS AND EPITOME OF OPHTHALMOSCOPY AND OPHTHALMOSCOPIC DIAGNOSIS. By PROFESSOR DR. O. HAAB, Director of the Eye Clinic in Zurich. From the Third Revised and Enlarged German Edition. Edited by GEO. E. DE SCHWEINITZ, Professor of Ophthalmology, Jefferson Medical College, Philadelphia. W. B. Saunders & Co., Philadelphia and London.

THE intimate relationship existing between the eye grounds and various systemic conditions is being more and more widely recognized, and while it is true that a certain amount of practice is necessary before the ophthalmoscope can be made to yield satisfactory information the number of general practitioners anxious to avail themselves of this aid to diagnosis is constantly increasing. But even after the initial difficulties of technic in the use of the instrument have been mastered, the question of the interpretation of the things seen remains to be solved, and, unless the observer has had wide experience in this line of work, an atlas is indispensable. Heretofore, however, such works have been out of reach of the profession in general owing to their extremely high price, but with the appearance of this addition to the excellent series of hand atlases, of which it makes part, this difficulty no longer exists. Like the other members of the series, this volume is a marvel of beauty, and all the ordinary lesions and many of the rare ones are depicted with a fidelity of form and color that leaves nothing to be desired. In addition to the plates reproducing the ophthalmoscopic images, there is a small number of colored lithographs of microscopic sections, showing the minute changes attendant on such lesions as glaucomatous cupping, choked disk, etc.

The last plate is a simple pupillometer, consisting of a series of black disks each varying by half a millimeter and intended to be removed from the volume for use, while in an introduction of about eighty pages, the more important principles involved in ophthalmoscopy are laid down.

DIE SERUM, BAKTERIENTOXIN UND ORGAN PRAPARATE. By Dr. pharm. MAX V. WALDHEIM. H. Hartleben, Vienna, Pest, Prague.

THE attempt to bring together and to arrange into a single volume the scattered papers and experiments bearing on the therapy of the serums, bacterial toxins and organic extracts, has resulted in this excellent small volume.

It is unnecessary to detail the subjects treated as the title is sufficiently explicit, but it is to be said that the work has been well done and that for a beginner more particularly much information may be gathered by little effort.